

TR-151A / TR-151E

Vehicle/Asset Tracker

User Manual

Version 1.0.0



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1. Introduction and Features

1.1 Introduction

TR-151 is a durable and water resistant GPS/GSM/GPRS tracker. Users can install TR-151 on vehicles or assets for tracking. It can send out SMS with its location (longitude and latitude) to user's cell phone by GSM network or to personal computer by internet connection of GPRS network. Then users can track the location of their vehicles or assets. TR-151 is designed to equip with high capacity of Li-ion battery for long operation time. There is one SOS button on the TR-151 for emergency help. It is very easy to install or hide TR-151 in the car to perform tracking. TR-151 is ideal application for vehicle tracking and equipment/assets monitoring.

1.2 Features

- High sensitive GPS chipset
- Combination of GPS ,GSM/GPRS wireless network
- Durable and water resistant GPS tracker
- Easy to install or hide in the car to perform tracking. No external wires needed.
- Ideal application for vehicle tracking and equipment/assets monitoring
- Optional external antenna for GPS reception
- Rechargeable 2100mA high capacity Li-ion battery for long operation time
- External DC power supply
- Configuration can be done via SMS commands or by application software via USB interface.
- SOS (emergency) button.
- Voice monitor function to monitor the sound/conversation live.
- Geofence function

NOTE: Voice Monitoring function allows user to send a SMS with voice monitoring command by a cellular phone to TR-151. TR-151 will call back to the returned number in the SMS. And then user can listen to the sound or voice around TR-151. While users listen to the sounds or voice around TR-151, people who around TR-151 won't know they are under voice monitoring. Please refer to page29 to get the detailed method of making voice monitoring.

NOTE: Geofence feature allows user to set up to 10 permissible or restricted areas whose shape is either circular or rectangular for tracking the vehicles or monitoring the equipment/assets. Users can choose to receive alarm message if TR-151 enters the restricted areas or to receive alarm message if TR-151 gets out the permissible areas. Please refer to page 26-28 to get the detailed setting method of Geofence.

1.3 Hardware

GSM module:	TR-151A: Siemens GSM 850/1800/1900 TR-151E: Siemens GSM 900/1800/1900
Operating temperature:	-20° to 55° C
Antenna Type:	GPS patch antenna
Dimension:	86.7*48.9*32.5 mm
Battery:	2100mA rechargeable Li-ion battery
LED indicator:	For Charging, GPS, GSM and Status.
Interface:	Mini USB port for connecting to PC
Casing:	Water resistant (IPX4)
GPS external antenna port:	MMCX port

2. Start-up

2.1 Accessories



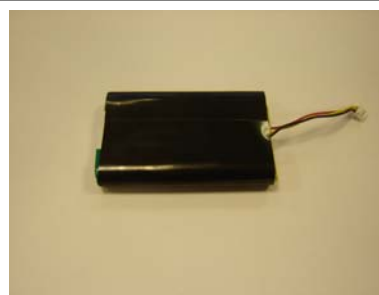
TR-151



AC charger



USB Cable



Battery



Mounting bracket with magnet (optional)

2.2 Install SIM card and Battery



- Use a coin or screwdriver to loosen the screw on back cover.



- Lift up the back cover and remove it as the direction shown.



- Push forward the cover of SIM card slot to the position marked with “OPEN”. Then lift up the cover.
- Insert the SIM card with its metal contacts facing down and the cut corner at the top left.



- Plug the battery connector into socket. Be aware that the **red wire** must be plugged on the top side.



- Please put the connector wire under the battery, and then put the battery into battery compartment.

NOTE: After installing the battery, the status LED will emit red light. After the LED go out, please wait for 5 seconds before turning on the power.

NOTE: Please take out the battery if you do not use TR-151 for a long time.

2.3 Charging the battery



Before using TR-151 for the first time, please fully charge it by connecting to AC power adapter under the power-off condition. (The attached battery is specially designed for TR-151. Please do not use other type of battery; otherwise it will damage the device. If you need to change the battery of TR-151, please contact your local dealer.) You can also charge the TR-151 by connect it to PC or Notebook via USB cable. (The power of PC or of notebook should be turned on.)

2.4 TR-151 with magnetic holder



- Insert the TR-151 with the Power button side facing out.



- Push TR-151 into the holder until it clicks in position.



- There are 4 circular magnets on back of the magnetic holder for attaching TR-151 onto the metal material of vehicle or machine.



- To remove TR-151, slightly push outward the two sides of holder, and slide out the TR-151.

2.5 Turn on/off the device

- **Turn on:** After installing the battery, the status LED will emit red light. After the LED goes out, please wait for 5 seconds before turning on the power. Press the power button for 3~4 seconds. When the device is turned on, GPS will do cold start to get fixed its position for the first time with the green GPS LED on. If location is fixed, the LED will blink. It is suggested that you stay at outdoor places or near the window where TR-151 can receive the better GPS signal when you turn on the device.

NOTICE: If it does not successfully get the location fixed after turning the power on, TR-151 may be located in the weak signal area or on the move.

- **Turn off:** Press the Power button for 3~4 seconds. When the power is turned off, LED will go out.

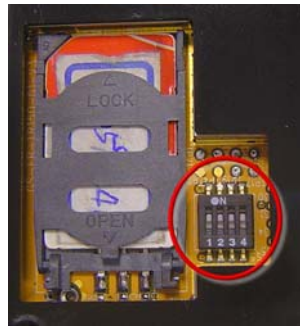
2.6 Button Description



Power button	1. Power On: Press and hold the power button for 3-4 seconds. The status LED will flash 2 times 2. Power Off: Press and hold the power button for 3-4 seconds. The status LED will flash 1 time. 3. Enter parking mode: Press the power button once to enter parking mode. When power button is pressed, LED will flash slowly (once per second) first, and then enter parking mode. The flash number is the second number you set in Park_Time.
SOS button	Press the SOS Button, the status LED will flash 3 times to indicate the button is activated. TR-151 will immediately send out emergency messages along with its GPS report to 3 preset phone numbers.
Indicator	 1. GSM LED: • Voice monitoring: LED keeps on. • When no SIM card is inserted, network searches in progress, ongoing user authentication, or network login in progress: LED blinks quickly (about once per second). • In standby mode: LED blinks slowly (once for 3 seconds) 2. GPS LED: The LED keeps on when it is fixing the location. The LED blinks when TR-151's location has been fixed. When GPS function is disabled, GPS LED will be off. 3. Status LED: • When battery low: LED keeps on. • When enter setup mode: LED keeps on. • Press power button to turn on: LED flashes quickly 2 times. • Press power button to turn off: LED flashes quickly 1 time. • When SOS button is pressed: LED flashes slowly 3 times. • When error occurs: LED flashes quickly 5 times. • Parking mode: When power button is pressed, LED will flash slowly (once per second) first, and then enter parking mode. The flash number is the second number you set in Park_Time. If you want to stop parking mode, press the power button again. The LED flashes quickly 3 times and it will exit parking mode. • Sleeping mode: LED will flash slowly 60 times and then it enters sleeping mode. 4. Power LED: • The LED emits orange light when charger is plugged for charging the battery. • The LED goes off after the battery has been fully charged.

USB connector	There are two functions of the USB connector: 1. Connect TR-151 to PC by a Mini USB cable and setup all its features and functions from application software through PC. 2. Charge the battery by connecting a USB cable.
Microphone	For voice monitoring use.
External antenna connector	For you to connect a MMCX external GPS antenna.

2.7 DIP switch



	On	Off
Switch 1	Enable TR-151 to automatically power on when it is connected to external power.	Users have to press the power button to power on TR-151 whether external power is connected or not.
Switch 2	All LED works as user mode.	Make all LED except status LED go off for secret tracking. Status LED works as user mode.
Switch 3	Setting Mode (Status LED keeps emitting red light)	User Mode
Switch 4	Sleeping Mode	User Mode

Note: You can set the switch by a little tweezers or pen point or toothpick.

3. TR-151 Management Setting

3.1 Install the USB driver

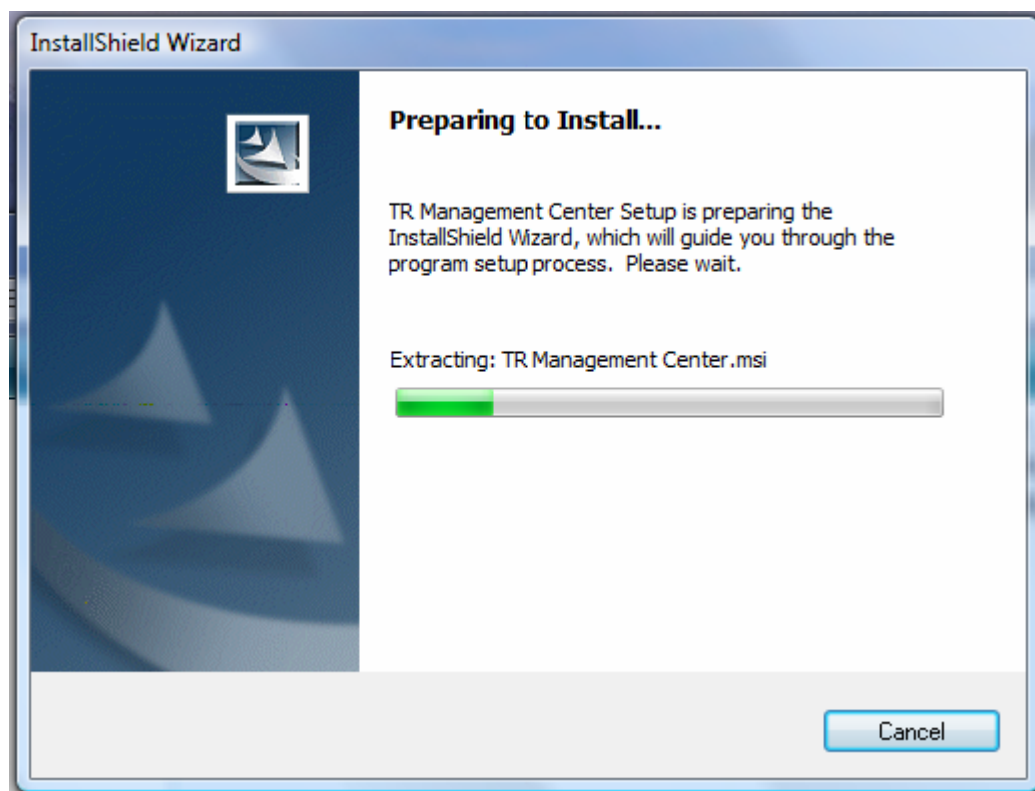


- 1.) Insert the Driver CD into your CD-ROM driver.
- 2.) AutoRun installation window will appear.
- 3.) Click **"Install USB Driver"** button to install the USB driver.
- 4.) You will see two folders. If your Windows is Vista version, please double click to open **"PL2303_USB_Driver_for_Windows_Vista"** folder and double click on **"PL-2303 Vista Driver Installer.exe"** to begin installation. Follow the instruction to complete the installation process.
- 5.) If your Windows is XP or 2000 version, please double click to open **"PL2303_USB_Driver_for_Windows_2000_XP"** folder and double click on **"PL-2303 Driver Installer.exe"** to begin installation. Follow the instruction to complete the installation process.

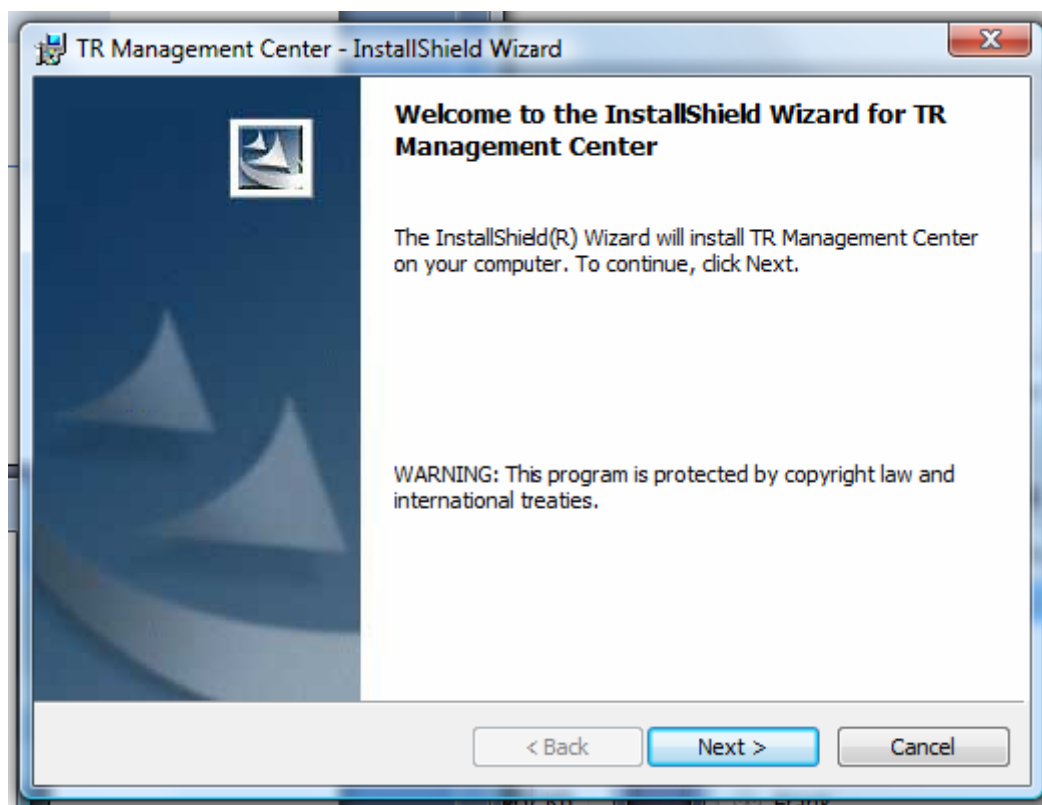
3.2 Install, Update, Uninstall the TR Management Center program

3.2.1 Install TR Management Center

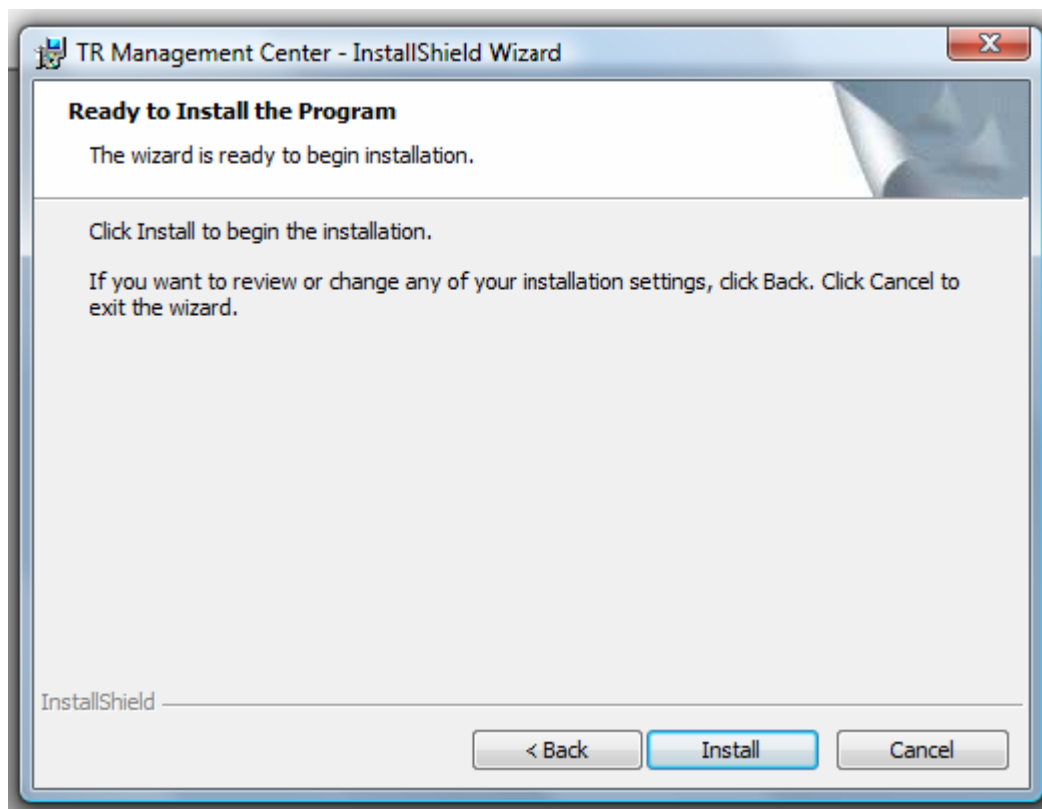
Step 1: Click **“English PC Software”** button to install the TR Management Center program.



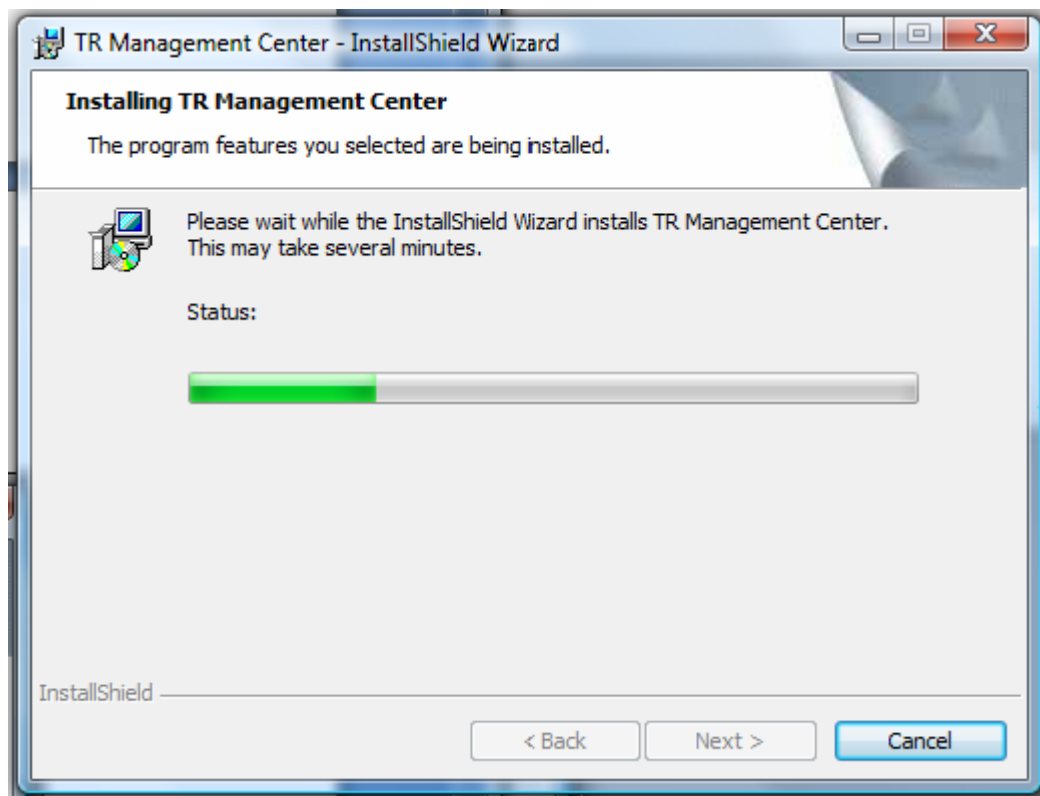
Step 2: Click "Next"



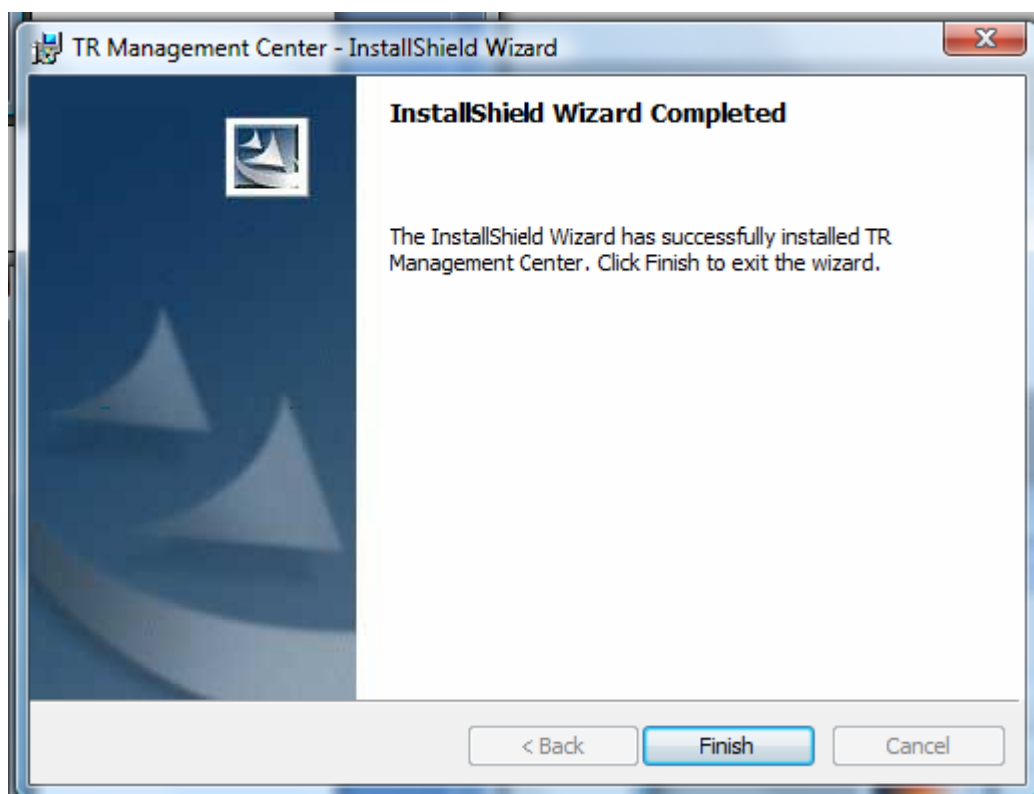
Step 3: Click "Install"



Step 4: Wait for the program to install



Step 5: Click "Finish" when installation is finished

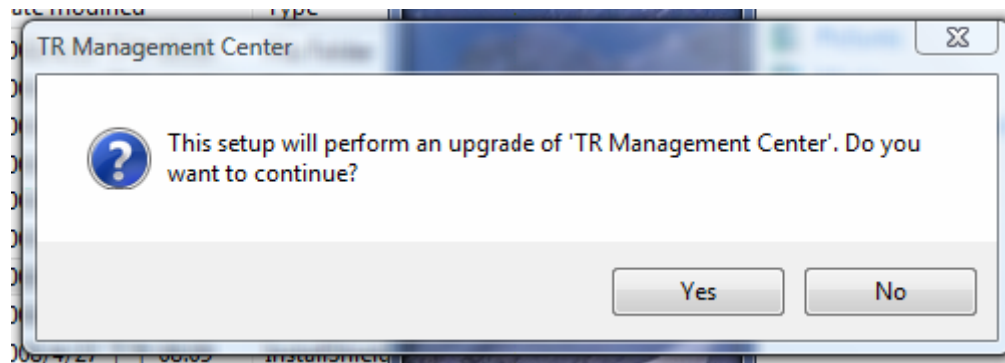


3.2.2 Update TR Management Center

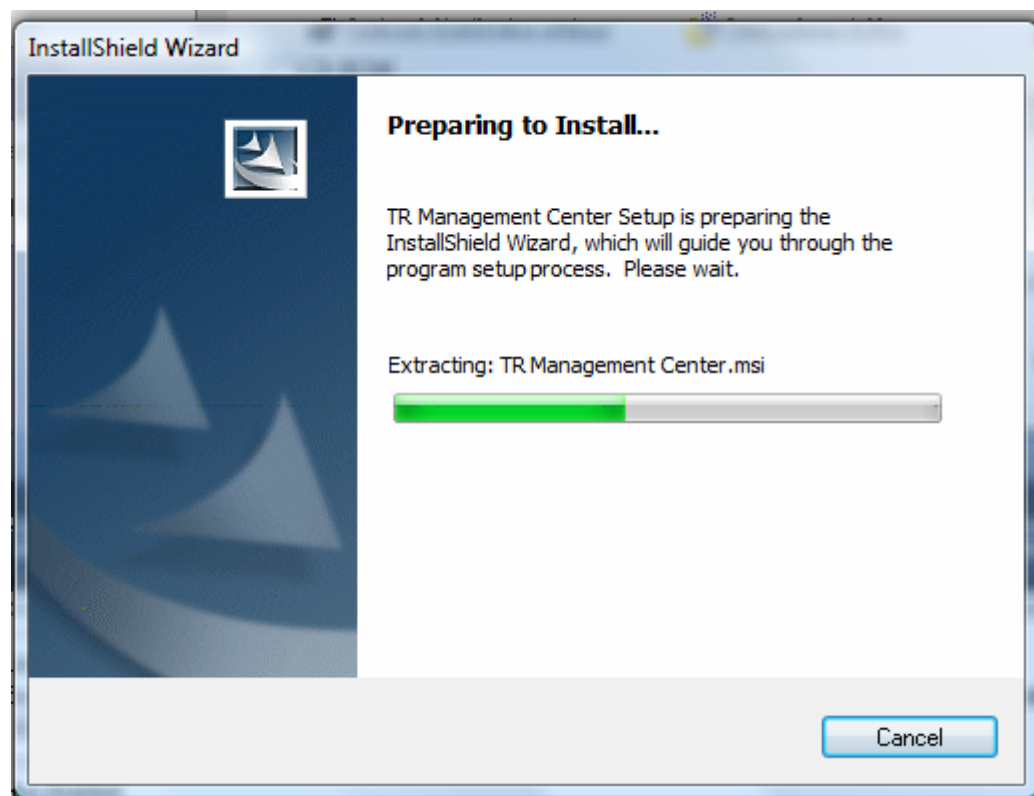
If you download a new version of the TR Management Center software from the Globalsat website, you could install the downloaded software to upgrade the TR Management center without un-installing the previous version of TR Management center.

The update process is as follows:

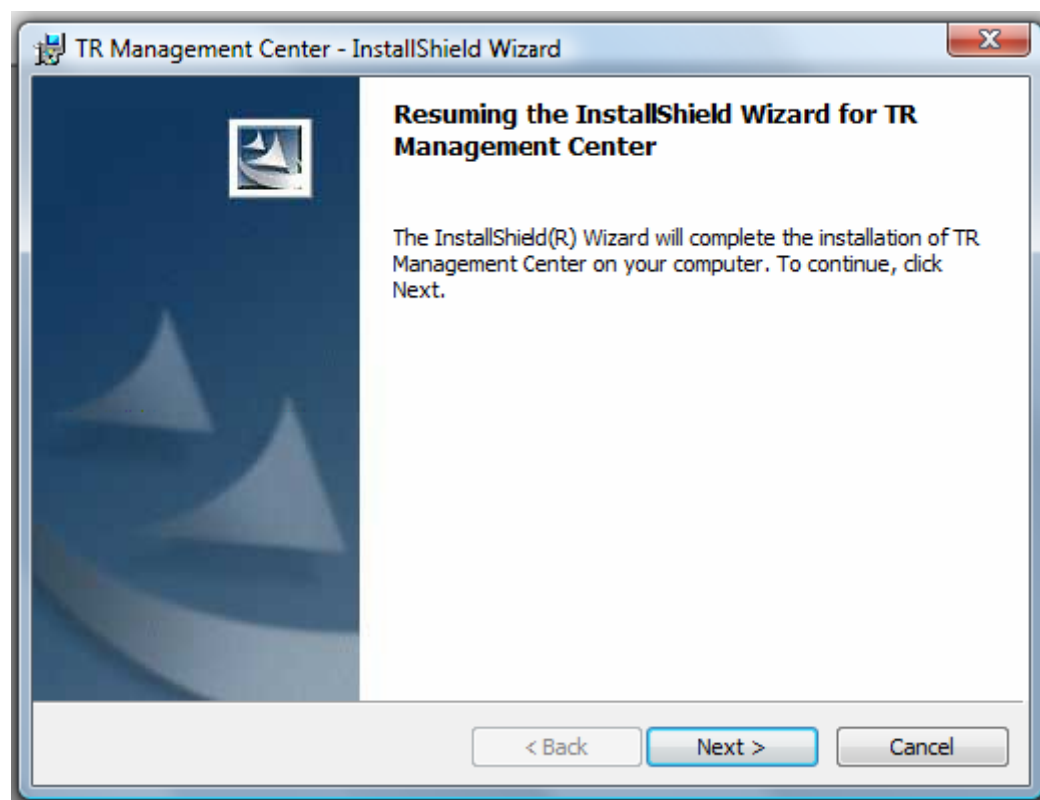
Step 1: Launch the update program. Press "Yes."



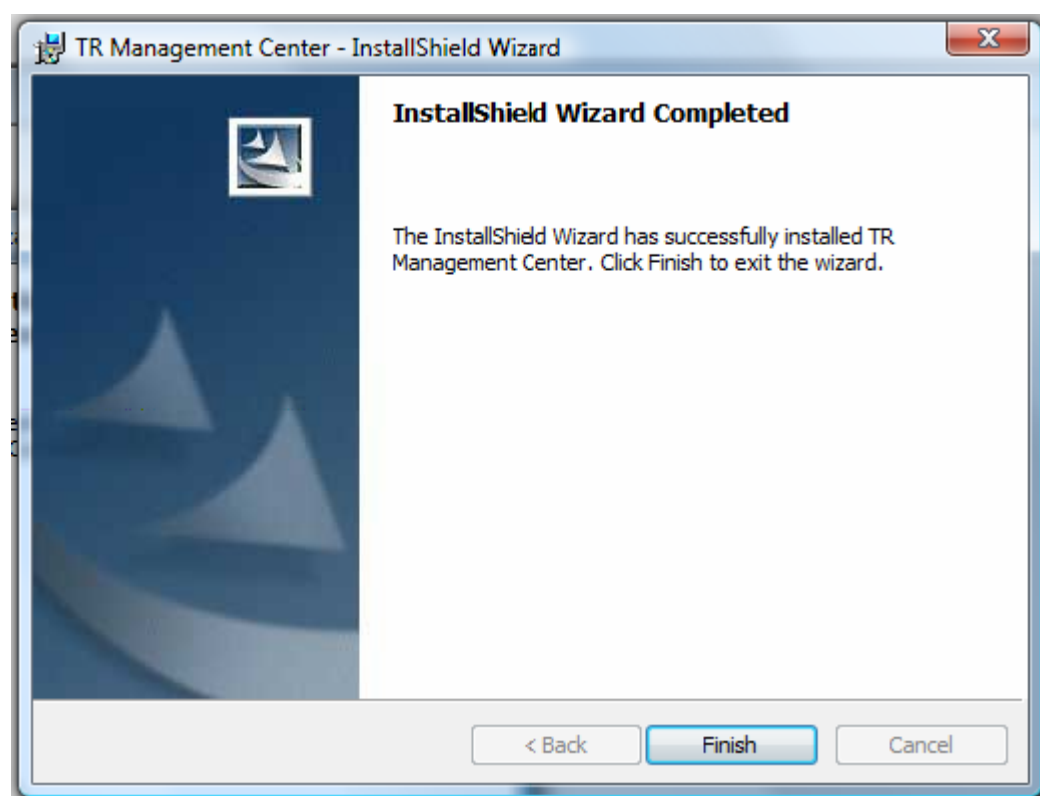
Step 2: Preparing to install program



Step 3: Begin to install the upgraded version of TR Management center. Click "Next"

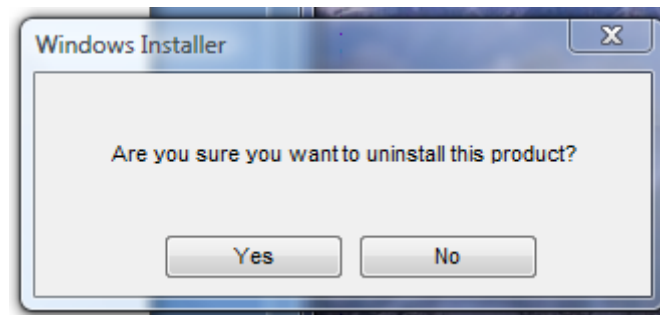


Step 4: Click "Finish"

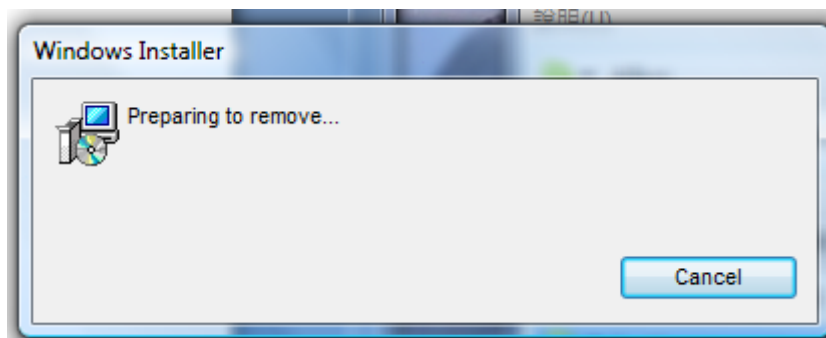


3.2.3 Uninstall TR Management Center

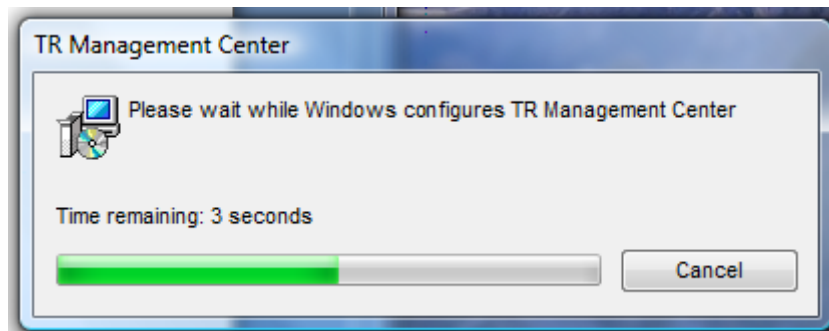
Step 1: Run "Start" -> "Globalsat" -> "TR Management Center" -> "Uninstall TR Management Center" Press "Yes"



Step 2: Preparing to remove program



Step 3: Uninstall in progress. Close window when finished



3.3 TR Management Center Screen Introduction

The screenshot shows the TR Management Center Main Screen. The interface includes a menu bar (File, View, Management, Skype, GPRS Service, Help) and a toolbar. The main area is divided into several sections:

- Menu:** A blue box pointing to the top-left corner of the application window.
- Google Map:** A blue box pointing to the central map area, which displays a street map of a city with a red car icon and a yellow track line.
- GPRS Tool:** A blue box pointing to the left sidebar, which contains a 'Trackers List' (showing 'Yanli(TR-151)'), 'Skype Status', 'GPRS Service' settings (Server, Port, Status), and 'Lastest Data' (Name, Coord, GPS Time, RecTime, Altitude, GPS Status).
- Data Output Area:** A blue box pointing to the 'Output' table at the bottom of the screen.
- Query Tool:** A blue box pointing to the right sidebar, which contains a 'Find history data' section (Tracker, Type, Start time, End time) and a 'Coordinate locate' section (Input WGS84 coordinate, Lat, Lon, Locate button).

The 'Output' table displays the following data:

Name	Source_Tel	Local_Date	Local_Time	Gps_lat	Gps_lon	Gps_date	gps_t
Yanli	0987654321	2008/05/15	07:42:01	52.32141	9.80881	2008/05/15	15:42
Yanli	0987654321	2008/05/15	07:41:56	52.32116	9.80758	2008/05/15	15:41
Yanli	0987654321	2008/05/15	07:41:51	52.32100	9.80673	2008/05/15	15:41
Yanli	0987654321	2008/05/15	07:41:47	52.32088	9.80616	2008/05/15	15:41

TR Management Center Main Screen

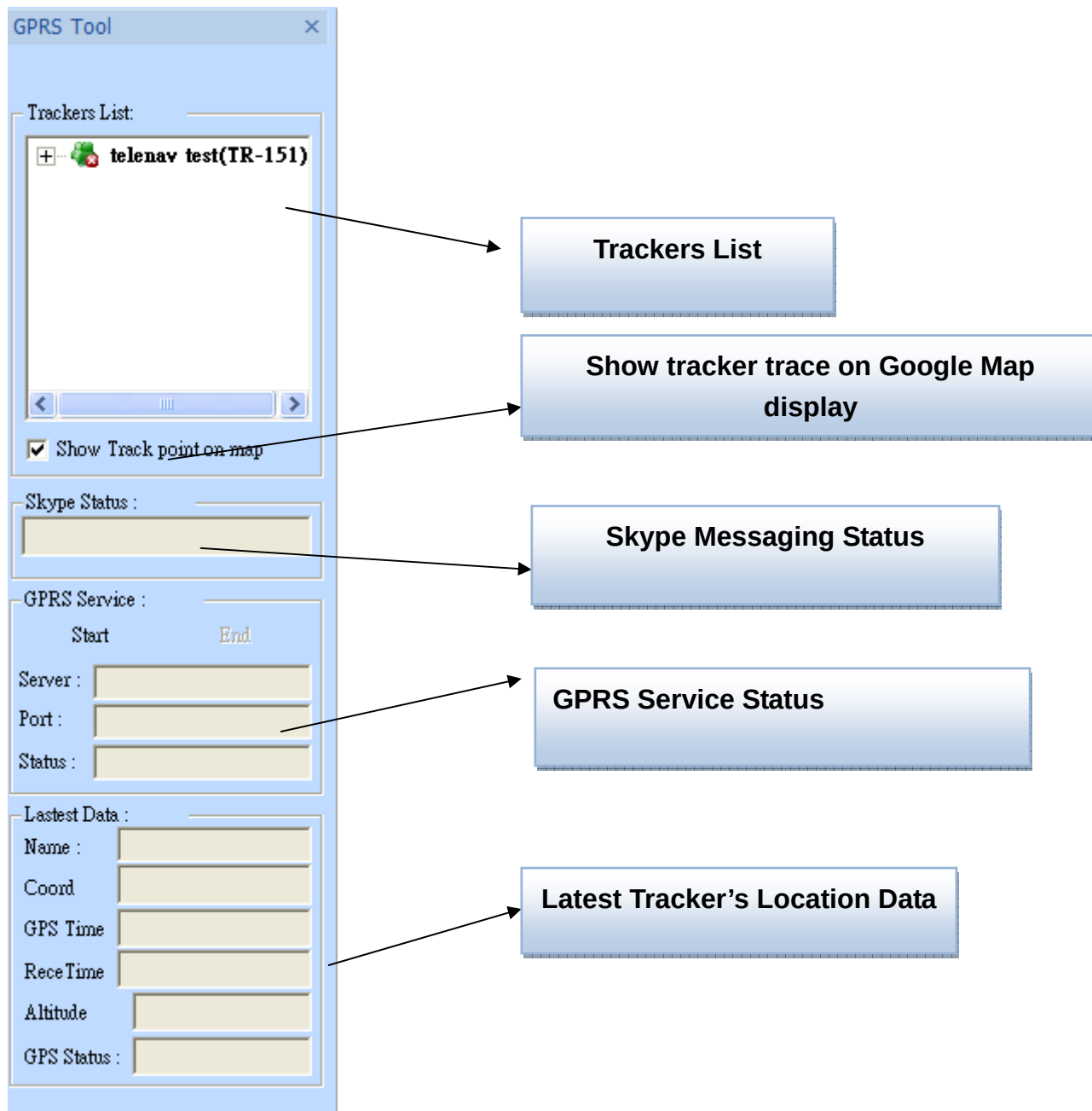
There are five parts of TR Management Center Screen as below.

- **Menu:** The basic menu options
- **GPRS Tools:** Shows the trackers' connection status, GPRS service status and the tracker's latest location
- **Query Tool:** Used for searching history data and finding coordinates
- **Data Output Area:** Shows the tracker login status, received GPRS data and query results
- **Google Map:** Shows the Google Map

The detailed description of each part is as following.

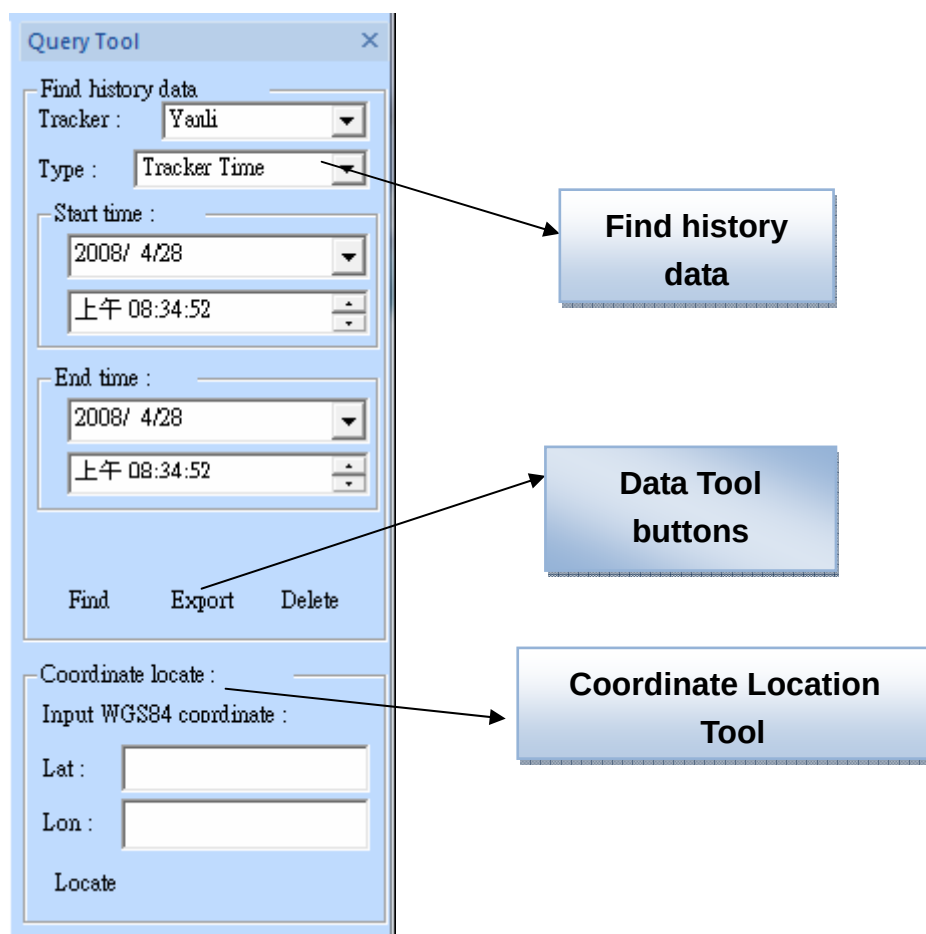
3.3.1 Tracker and GPRS Tool Bar

GPRS tool is for managing trackers and showing the GPRS server status



3.3.2 Query Tool

Query tool is for looking up for the history data and coordinate.



3.4 Skype Setup

In stead of sending SMS to trackers by mobile phones, TR Management Center sends SMS to trackers by Skype. You can not only send SMS to trackers for asking report by Skype, but send SMS to set the parameters of TR-151's function.

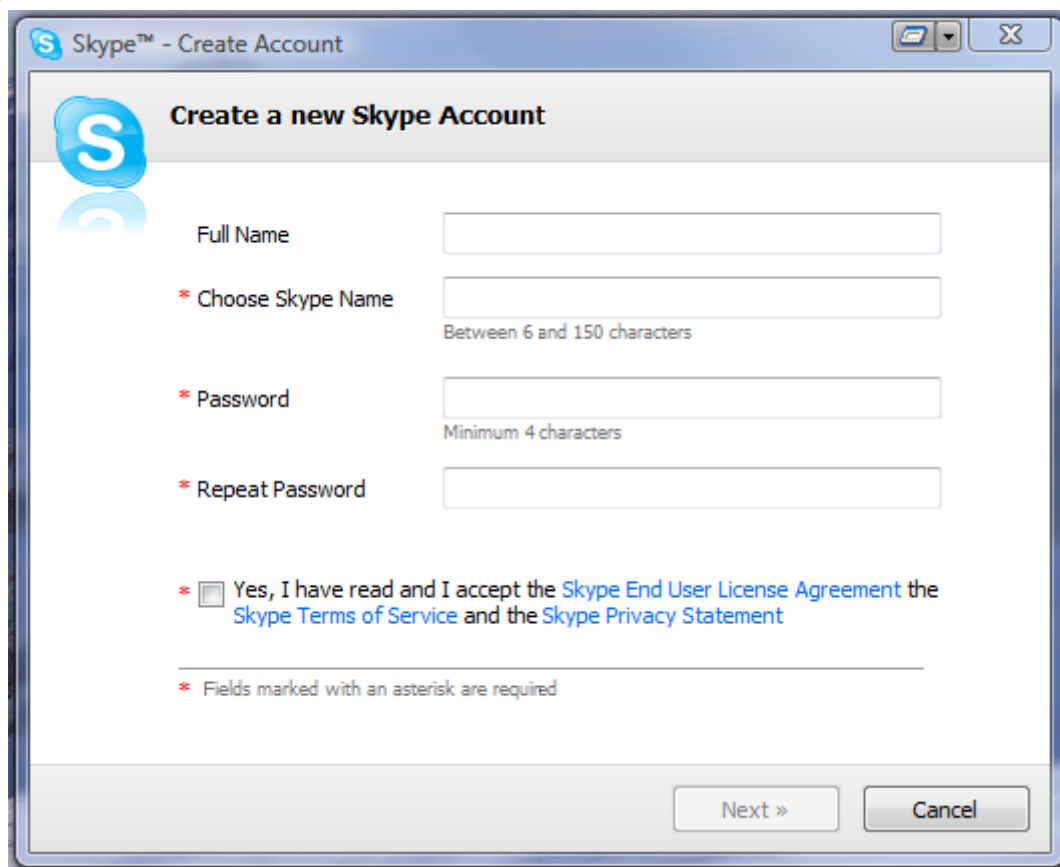
In order to send SMS by Skype, please complete the following steps to activate the SMS function of Skype.

Step 1: Install Skype Software

You can download Skype from www.skype.com or the website of the local Skype distributor. Please refer to the instruction of Skype to install the software.

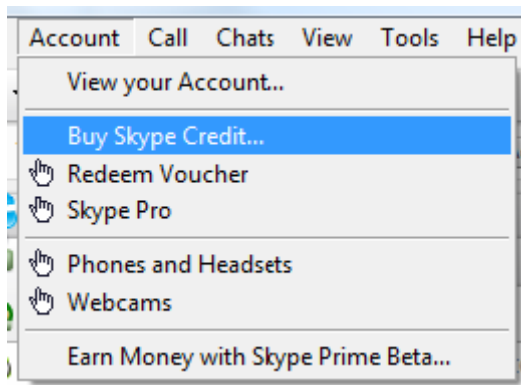
Note: The pictures and instructions provided in this manual are based on Skype version 3.6.1.xxx. If they do not match the version of Skype you are currently using, please download and upgrade to the latest version from the Skype website.

Step 2: Please create a user account.



Once you have created an account, you can login and use Skype's basic functions.

Step 3: Buy Skype credit

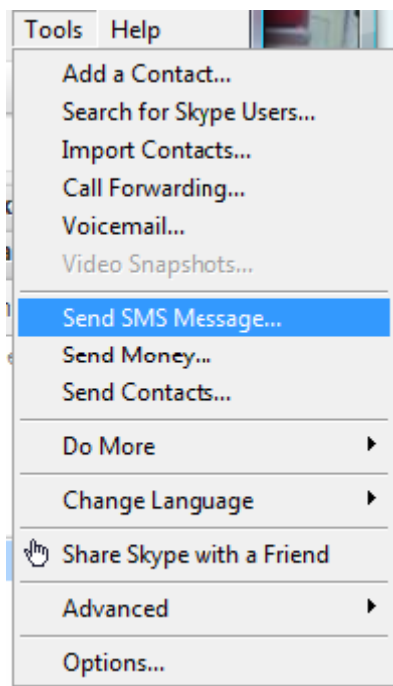


Step 4: Test the Skype SMS function

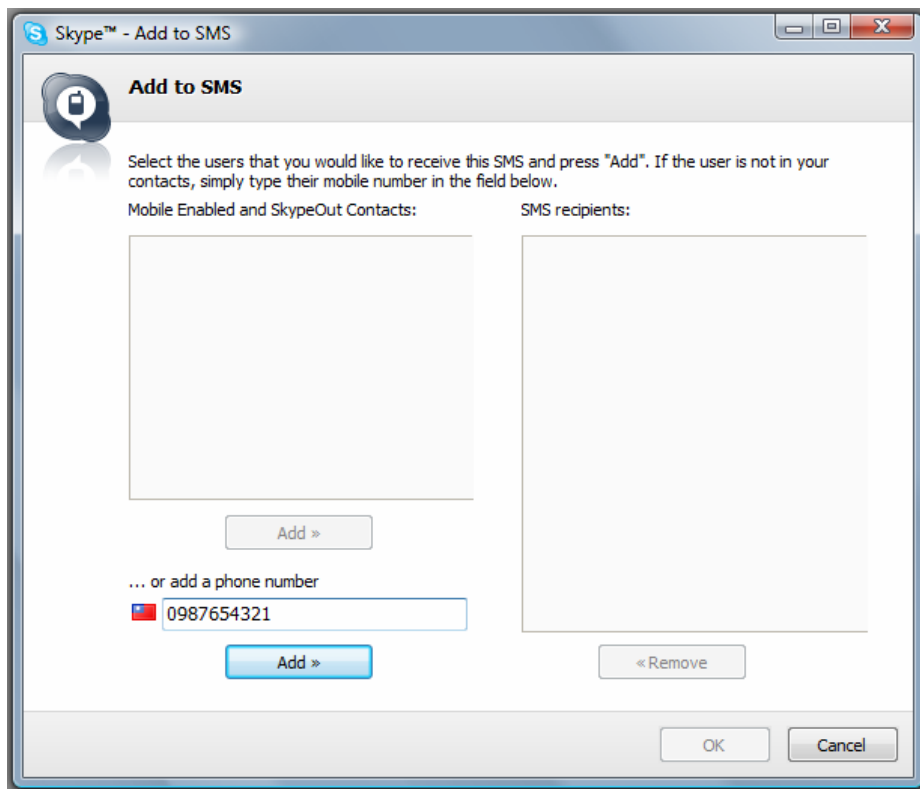
After completing the above process, please check if Skype's SMS functions can work by sending a test message to mobile phone. Follow the SMS messaging procedure below to send a SMS message and check that your Skype is working normally.

➤ Sending a test SMS

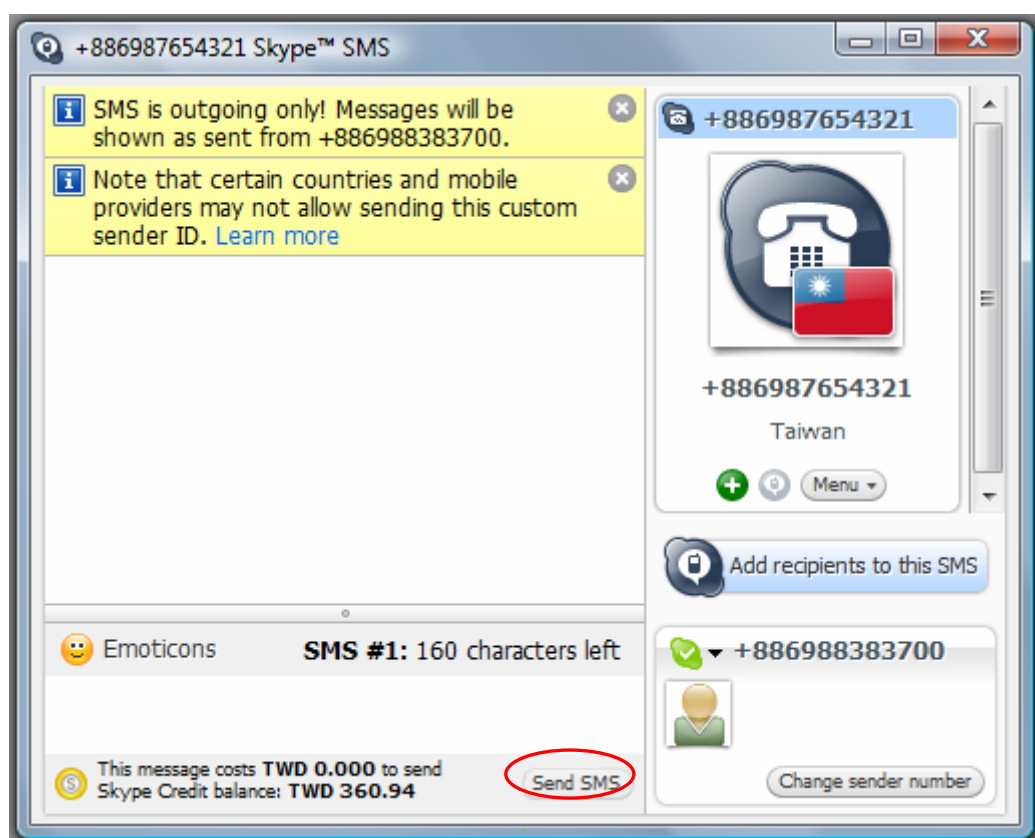
From the Skype menu, select "Tools" -> "Send SMS Message" then follow the steps shown below



Choose **Send SMS Message** from the menu

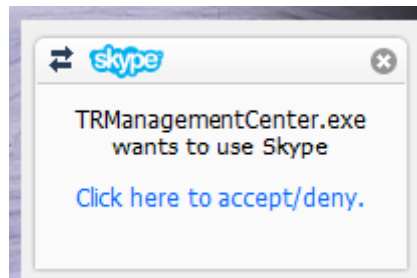


At the Send SMS interface, add the recipient's mobile phone number

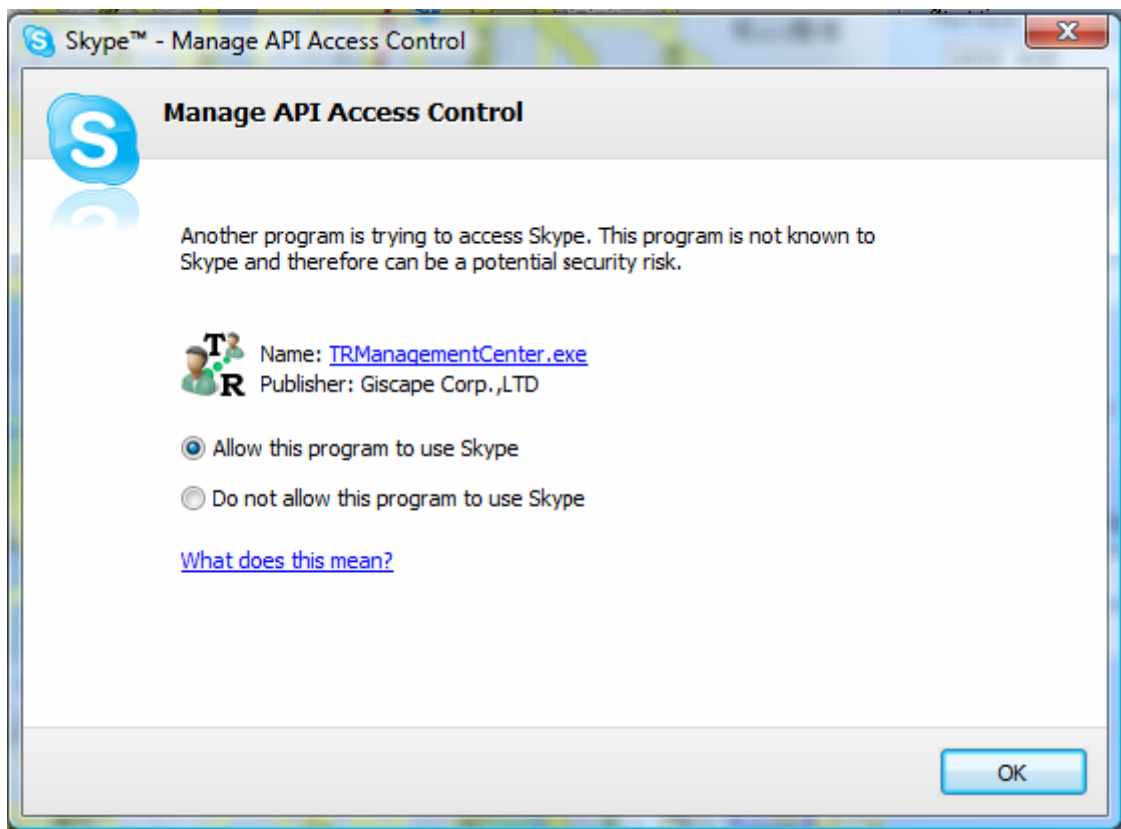


Write the content of SMS and click **Send SMS** button

Step 5: When you launch the TR Management Center program, the following security verification pop-up window will appear in the lower right corner of the screen asking you to allow the TR Management Center to use Skype functions.



Click the blue text to request Skype access.

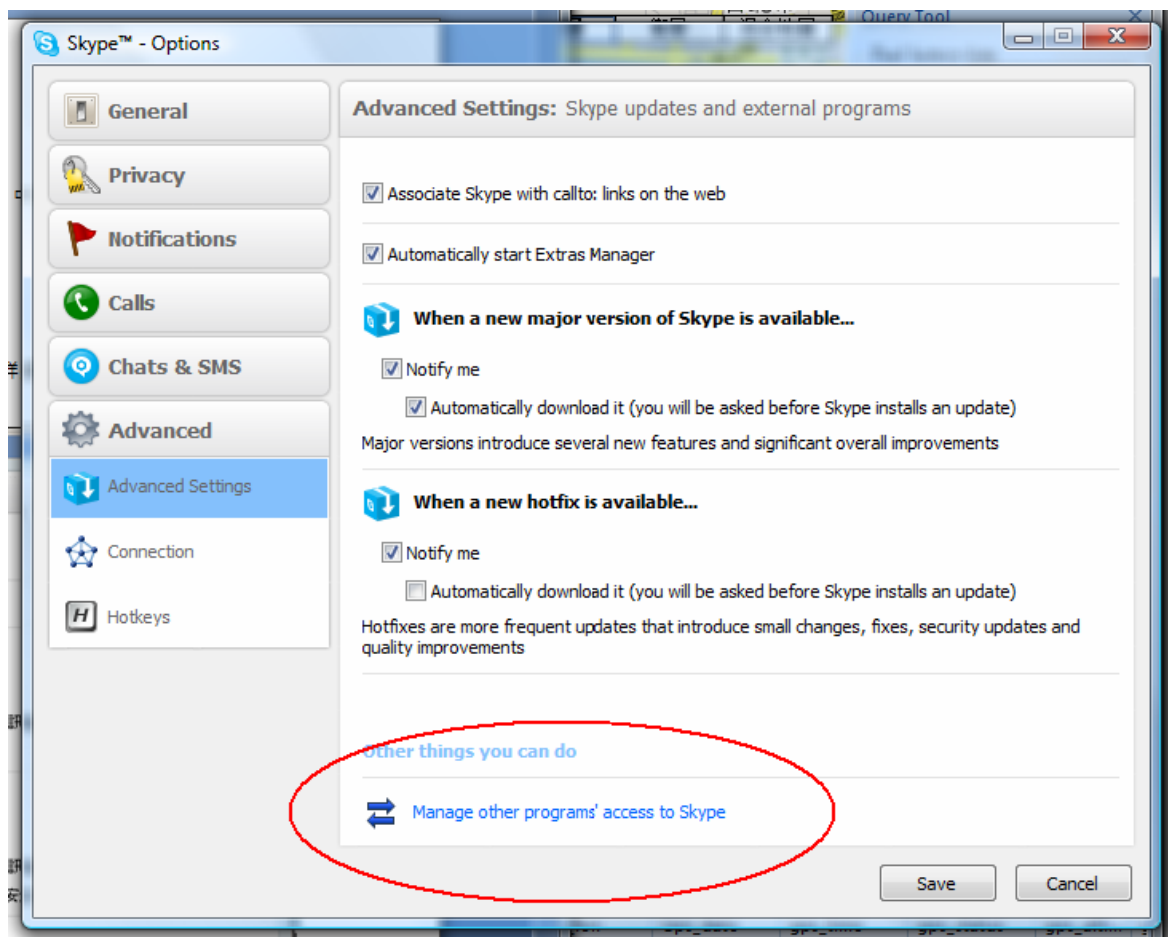


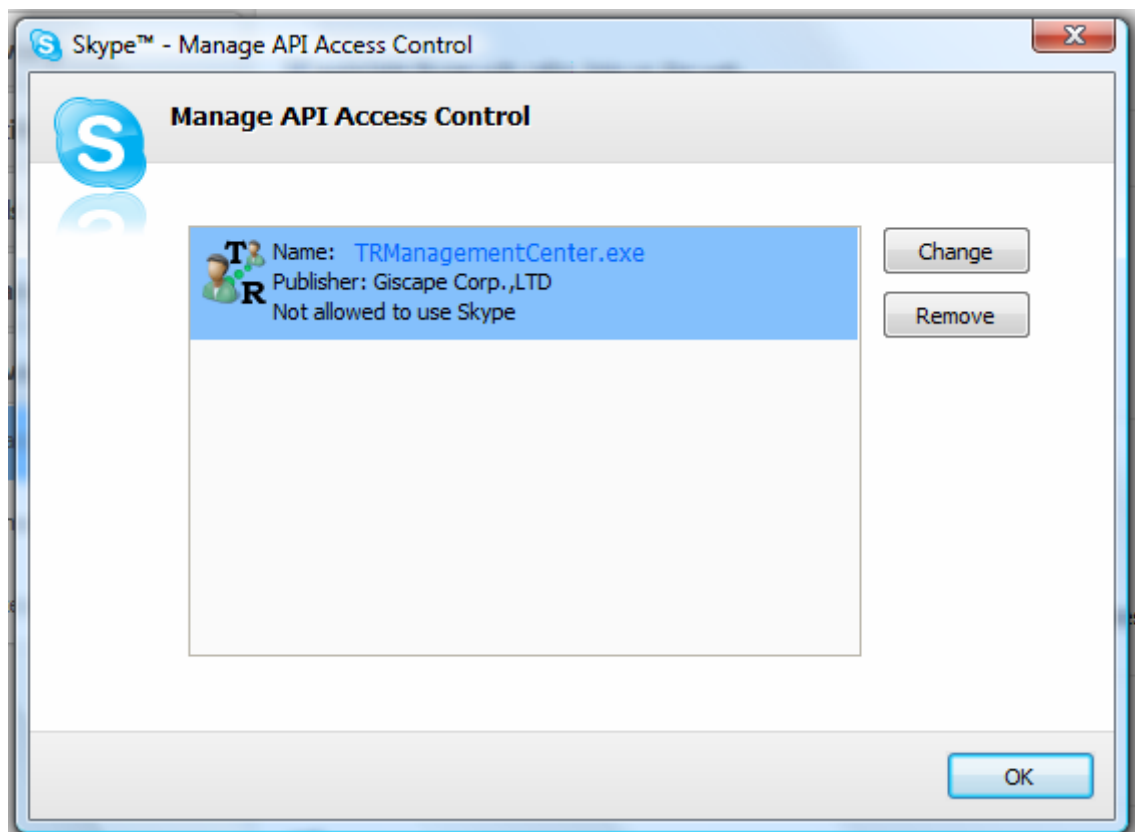
Select **"Allow this program to use Skype"**

If you accidentally select "Do not allow this program to use Skype", please change this from within the Skype program at "Options -> "Advanced"

Note:

The exact procedure may vary from the version of Skype. Please refer to the Skype manual for more information.





If the TR Management Center is not allowed to use Skype, please click on the **"Change"** button and select **"Allow this program to use Skype"**.

3.5 Firewall Setting

The TR Management Center sends data via GPRS network, so the firewall must be configured to allow external access. When you launch the GPRS service, a Windows Security Alert window will appear. Click on the "Unblock" button to let the TR Management Center to use the network.



3.6 TR Management Center System Requirement

The computer system requirements of the TR Management Center program:

1. The computer must be equipped with at least an Intel Pentium 4 or equivalent AMD CPU, 256MB of RAM and a network card.
2. Supports the following operating systems: Windows XP, Windows 2000, Windows 2003 or Windows Vista. **(It does not support 64 bits OS)**
3. The graphics card must support at least 256 colors and a resolution of 800x600 or higher.
4. Skype must be version 3.6 or higher. The latest version can be downloaded from www.Skype.com.
5. A fixed IP address is required. If a dial-up network connection is used, the program must be provided with this computer's external IP address. TR-151 trackers must be configured with this IP.

3.7 Copyrights and Example Information

The copyright on all software and hardware mentioned in this manual belong to their respective owners.

1. The copyright of Windows XP, Windows 2000, Windows 2003 and Windows Vista belong to the Microsoft Corporation.
2. The copyright of the Skype program belongs to Skype Technologies S.A.
3. The copyright of Google Map belongs to **Google Inc.**
4. The copyright of Intel Pentium belongs to the Intel Corporation.
5. The copyright of AMD belongs to Advanced Micro Devices, Inc.

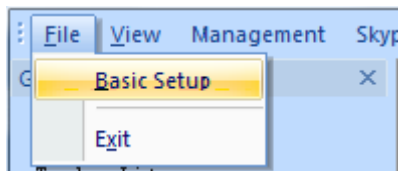
All text and telephone numbers mentioned in this manual are used as an example only. We apologize in advance for any coincidences.

Any copyrights not mentioned in this manual belong to their respective owners.

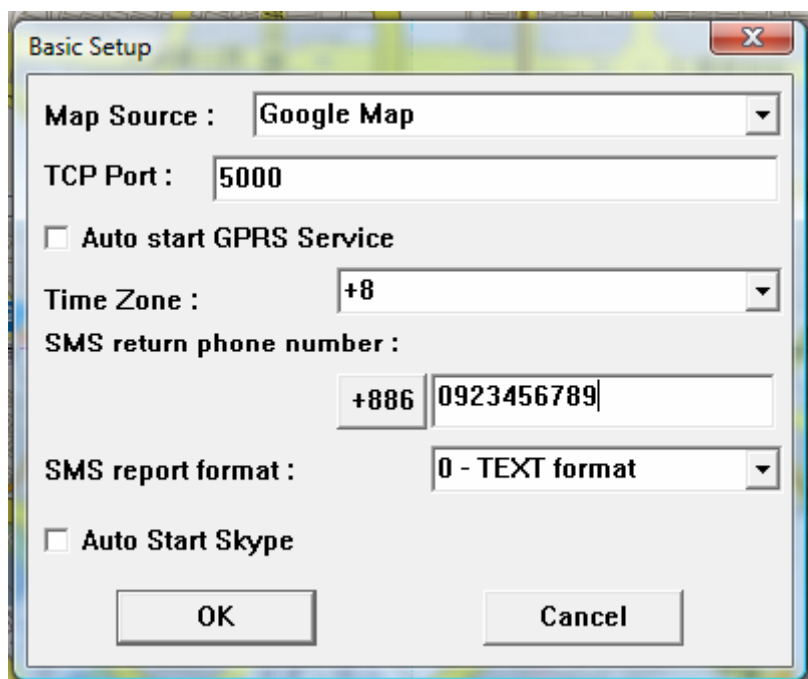
4. TR-151 Management Operation

4.1 TR Management Center Basic Setup

Before operating the TR Management Center, please set the operation parameters of the TR Management Center in the **Basic Setup**. It will make the afterward operation work properly.



Basic Setup



Basic Setup Interface

Item	Function	Description
Map Source	Choose to use Google Map or Google China Map	
TCP Port	Set the communication port for connecting GPRS network	The default is 5000. You can set form 1024~5000.
Auto start GPRS service	Choose to automatically start GPRS service or not	
Time Zone	Set the time zone	
SMS Return phone number	Set the phone number for receiving the SMS report	
SMS report format	Set the SMS format	
Auto Start Skype	Choose to automatically start Skype	

Note: Please do the Basic Setup for the first time of using TR Management Center. If you want to use the China's map, please choose Google China Map in the Map Source and re-start TR Management Center.

4.2 Tracker Management

TR Management Center can track and manage up to 5 trackers. You have to set the parameters of TR-151 while adding a set of TR-151 in the TR Management Center. If you have already set 5 trackers in the TR Management Center and want to set one more tracker, please delete one of the existing trackers in the TR management center.

The tracker's information and parameters must be properly configured before using other functions of TR Management Center. Then your tracker can correctly send report back to the TR Management Center and that the program can correctly display the tracker's current location on the map.

4.2.1 Adding and setting a TR-151 tracker

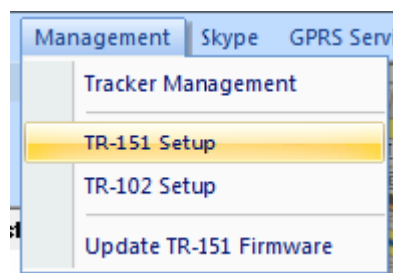
You can add a new tracker by making TR-151 Setup, please follow the steps below.

Step 1: Connect the TR-151 to the computer's USB port by the USB cable.

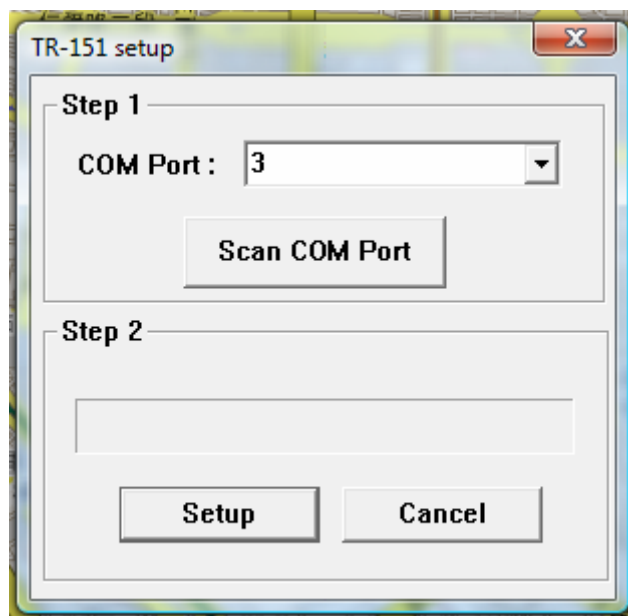
Step 2: Open the battery cover and adjust DIP Switch 3 to "On".

Step 3: Turn on the TR-151. When the status LED turns red, the tracker is under setup mode. (Please hold down the power button for 2 seconds or more until the red light comes on.) (Note: After turning on the power, please wait around 10 seconds before continuing with the TR-151 setup process)

Step 4: From the "Management" menu, select "TR-151 Setup" and enter the setup interface.

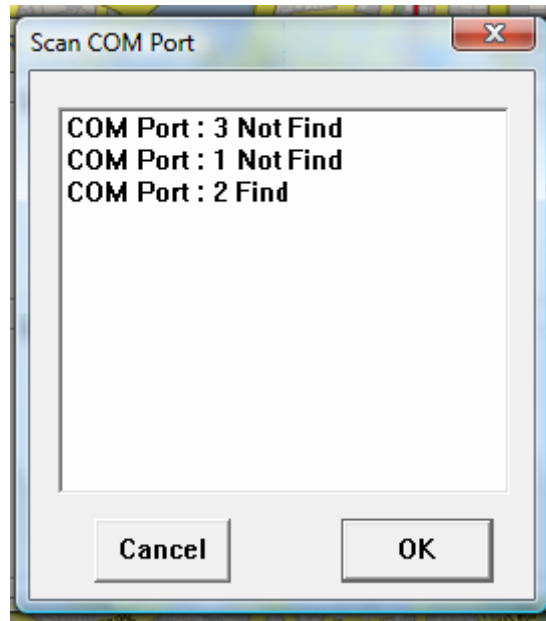


Step 5: After selecting "TR-151 Setup", please select the COM Port. If you are not sure which COM port you are using, click "**Scan COM Port**". Then please click "**Setup**" button to open the Setup window.



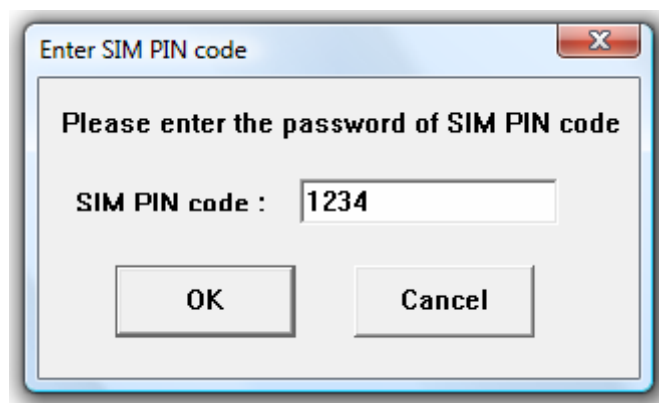
TR-151 Setup Interface

Click on Scan COM Port to find the port the TR-151 is connected to



Note: If the scan fails to locate TR-151, please try again with the other USB port.

Note: If your SIM card asks for SIM PIN entry, a window will appear prompting you for the PIN password. (Please make sure you enter the correct code as the SIM card will be locked after three failed attempts. If you do not know the PIN code or the SIM card is locked, please contact your GSM network service provider for assistance.)



SIM PIN Code Interface

4.2.1.1 TR-151 Basic setup

The screenshot shows the 'TR-151 Setup' dialog box with the 'Basic setup' tab selected. The dialog has three tabs: 'Basic setup', 'Parking and sleeping mode setup', and 'GPRS setup'. The 'Basic setup' tab contains the following fields and options:

- Tracker information:**
 - Firmware version: TR-151 v.stand_2.1_M by Nat Lin 080305(F-0TR-0Q-0804023)
 - IMEI code: 352022007715046
 - Set time zone: ON (dropdown menu)
 - Tracker name: Yanli
 - Phone number: +886 0923456789
- SMS default return phone number:**
 - ☐ SMS default return phone number: (empty text field)
- Maximum GPS fixing time:**
 - Maximum GPS fixing time: 4 (dropdown menu)
- Default report mode setting:**
 - Default report mode: Stop Report: mode 2 (dropdown menu)
 - Report interval: 5 (text field)
 - Report format: 0 - TEXT Format (dropdown menu)
 - Number of reports: 0 (0:Continue report)
 - Return phone number for default report mode: (empty text field)
- SOS number:**
 - SOS number 1: 0934567890
 - SOS number 2: (empty text field)
 - SOS number 3: (empty text field)

At the bottom of the dialog are three buttons: 'Default', 'OK', and 'Cancel'.

TR-151 Basic setup

Tracker Information: TR-151's Basic Information:

Item	Description
Firmware Version	Version of TR-151 firmware.
IMEI Code	International Mobile Equipment Identity
Set Time Zone	On: SMS sent from TR-151 will be converted to local time. Off: SMS sent from TR-151 will include the Coordinated Universal Time (UTC).
Tracker name	Enter the name of the tracker.
Phone number	Enter the phone number for this TR-151 and select the country/area code.

SMS default return phone number:

Item	Description
SMS default return phone number	TR-151 will send location report or confirmed message back to the return phone number that is in the last field of all SMS tracking commands.

	If user leaves “Return Phone Number” blank in the tracking commands, TR-151 will send SMS back to “SMS Default Return Phone Number”. If “Return Phone Number” and “SMS Default Return Phone Number” are both blank, TR-151 will send report back to caller ID.
--	--

Maximum GPS fixing time:

Item	Description
Maximum GPS fixing time	The maximum time allowed for a GPS fix. If TR-151 cannot get fixed of the location within the specified time, TR-151 will turn off GPS and send back its last known position.

Default report mode setting:

Item	Description
Default report mode	TR-151 will automatically go into the "Default report mode" when it is powered on. There are 5 report modes: SMS Immediate Report, SMS Period Report, Stop Report (Standby), GPRS Immediate Report, GPRS Period Report. After selecting a report mode, the unnecessary parameters for that mode will be disabled.
Report interval	The interval of sending location report in "SMS Period Report" and "GPRS Period Report" mode. The unit is second.
Report format	Set the TR-151's report format as 0, "TEXT Format" or as 1, "NMEA Format". 0 – TEXT Format TR-151 2008/3/6 18:50:6 N2459.8094,E12129.2499 GPS fixed" 1 – NMEA Format ?0,352023006488395,0,3,130308,061740,E12129.3241,N2459.8051,134.0,0.04,0.00,4,4.45!
Number of reports	Set the number of reports to transmit in "Period Report" mode.
Return phone number for default phone number	The phone number for receiving the SMS of " Default report mode "

SOS number:

Item	Description
SOS number	After SOS button is pressed, TR-151 will send SMS with its location to 3 phone numbers. You can set the 3 phone numbers in the field of SOS number. If only one phone number is setup, TR-151 will only send one SMS.

4.2.1.2 Parking and sleeping mode setup

TR-151 Setup

Basic setup Parking and sleeping mode setup GPRS setup

Parking mode setting

Activation time : 30 sec (1~300)

Interval time : 30 sec (5~86400)

Report numbers : 0

Return phone number :

Sleeping mode setting

Regular report interval : 12 Hour (1~24)

Alarm report interval : 30 sec (5~86400)

Report numbers : 0

Return phone number :

Sensitivity : 10 (1~255)

Default OK Cancel

Item	Description	Default	Remarks
Activation time	Set how long TR-151 will enter Parking mode after pressing the power button.	30 seconds	Can be set from 1~300 seconds
Interval time	The interval of sending SMS when TR-151 senses vibration under parking mode	30 seconds	
Report numbers	Set how many SMS will be sent when TR-151 senses vibration under parking mode	0	0 indicates report continuously
Return phone number	The phone number for receiving SMS under parking mode		
Regular report interval	The interval of sending SMS under sleeping mode. During the interval,	12 hours	Unit is in hours

	TR-151 will temporarily exit from sleeping mode		
Alarm report interval	The interval of sending SMS when TR-151 senses vibration under sleeping mode	30 seconds	Can be set from 5~86,400 seconds
Report numbers	Set how many SMS will be sent when TR-151 senses vibration under sleeping mode	0	0 indicates report continuously
Return phone number	The phone number for receiving SMS under sleeping mode		
Sensitivity	Set how many vibrations TR-151 senses over this sensitivity under parking mode, it will send out the location SMS	10	Can be set from 1~255

4.2.1.3 TR-151 GPRS setting

The screenshot shows the 'TR-151 Setup' window with the 'GPRS setup' tab selected. The fields are as follows:

- GPRS Port: 5000
- GPRS apn: internet
- GPRS user name: (empty)
- GPRS dns1: (empty)
- GPRS user password: (empty)
- GPRS dns2: (empty)
- GPRS Server IP address or Domain name: stage2j2me.telenavtrack.net

A 'Default' button is located at the bottom left of the window.

Item	Description	Remarks
GPRS Port	The communication port for connecting to GPRS network	Default is 5000 Can be set from 5000~9999
GPRS APN	The name of your GPRS service provider's access point	The APN depends on the SIM card for the telecommunication service provider used by your TR-151 (The list below is for service providers in Taiwan. Please contact the provider for your region if necessary)
GPRS user name	GPRS user name	Contact your GSM/GPRS network service provider
GPRS user password	GPRS user password	
GPRS DNS1		
GPRS DNS2		
GPRS Server IP address or Domain name	GPRS server host IP	The fixed IP or Domain Name for the computer running the TR Management Center

APN Settings in Taiwan's provided

Service Provider	APN
Far East one	fetnet01
Trans Asia Telecommunications	hank
Chunghwa Telecom	emome or internet
MOBITAI Communications	gprs1
Taiwan Mobile	Internet
KG Telecom	internet

Once you have entered all of the settings, click on **"OK"** to set up the TR-151 or click on **"Cancel"** to cancel the setup.

Note 1: After setting up TR-151, if this tracker does not exist in the TR Management Center it will be added to the database. If it already exists then the database will be updated.

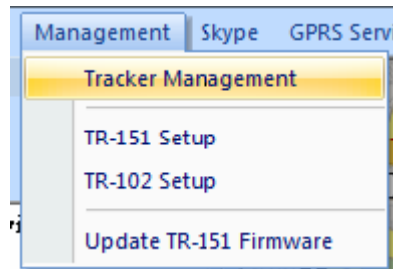
Note 2: Once setup is complete, turn off the TR-151, set the DIP Switch to OFF and restart before use.

Note 3: If your device has not been used for a long time or the data has been lost for some reason, click on the "Default" button to reset the device to its default settings.

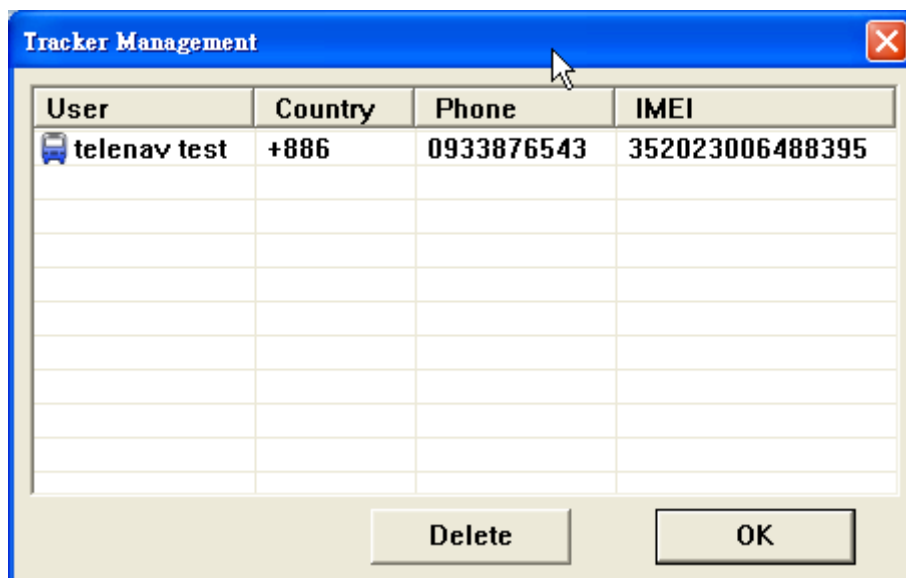
4.2.2 Tracker Management

Tracker Management is used to manage registered or previously configured trackers. In Tracker Management, you can edit or delete trackers.

You can find Tracker Management from the Menu "Management" -> "Tracker Management".



The Tracker Management option under Management in Menu



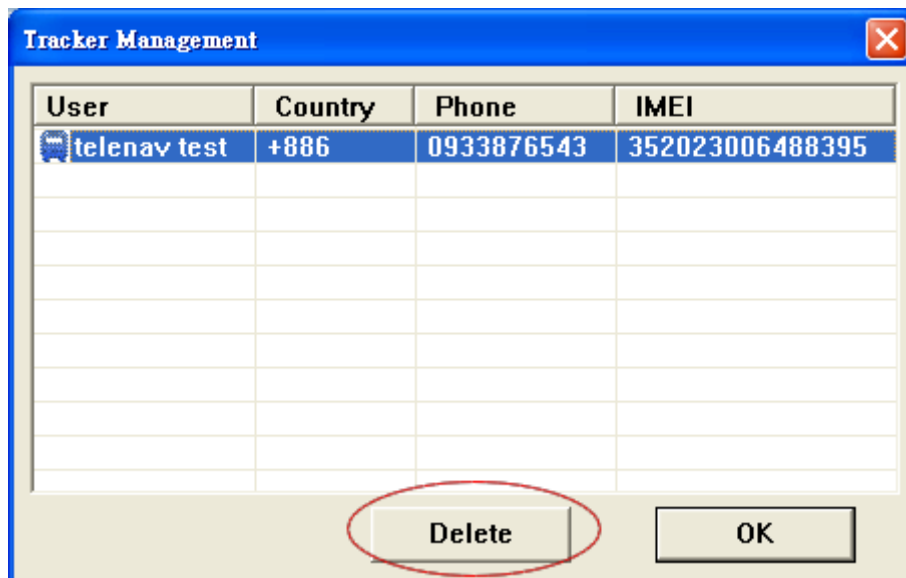
Tracker Management interface

4.2.2 Deleting a TR-151 tracker

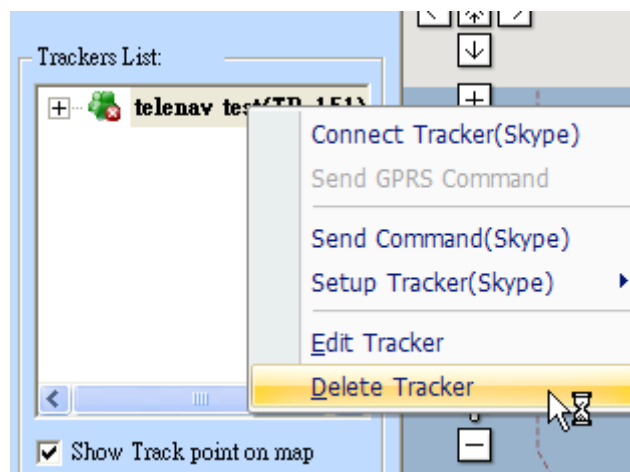
There are two ways for deleting TR-151 trackers in the TR Management Center

1. Select "Management" -> "Tracker Management" from menu bar.

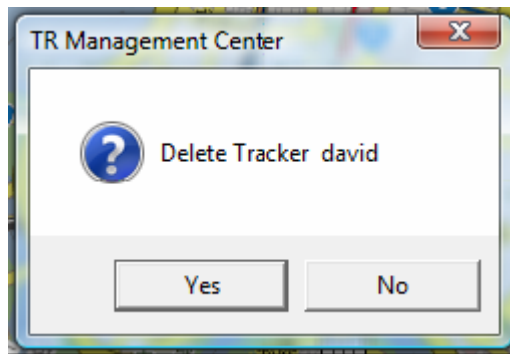
Choose the TR-151 you want to delete, and then click on the **"Delete"** button.



2. The other way of deleting TR-151 tracker is selecting a tracker from the Trackers List and right clicking the mouse button to bring the tracker menu. Now click on **Delete Tracker** to delete the selected tracker.



Method 2 for deleting a tracker



A confirmation window will appear when deleting a tracker

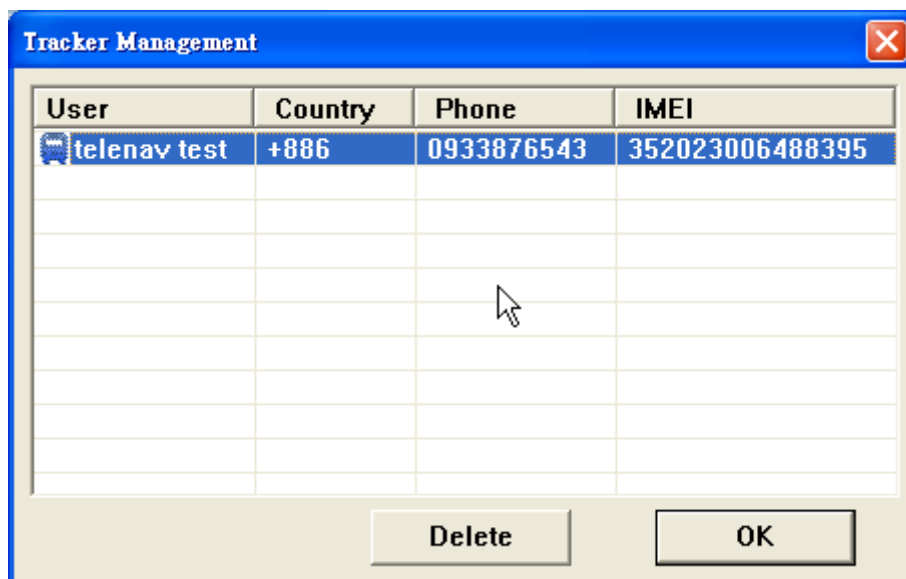
Note: Deleting a tracker does not actually delete its history data from the database. To delete all history data, please use the editing features in Microsoft Access.

4.2.2 Editing a TR-151 tracker

If you want to change the information of TR-151 tracker, you can edit the information by “Edit tracker”

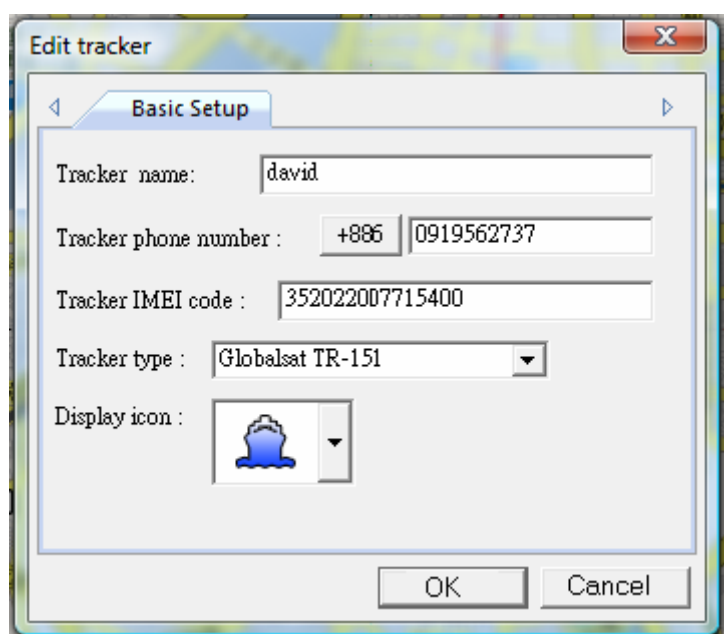
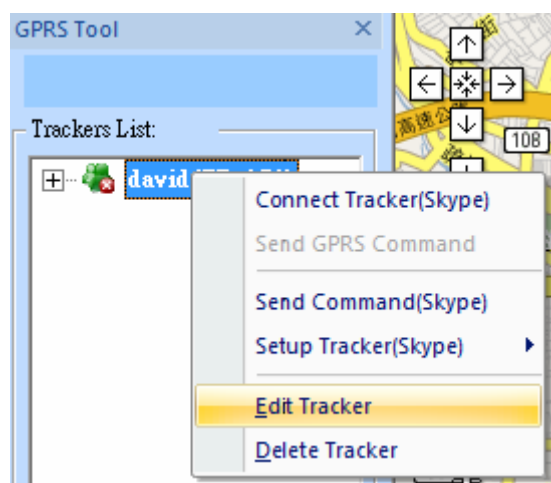
There are two ways of bring up “**Edit tracker**”

1. Click “Management” → “Tracker Management” from menu.



Double click a tracker, and then the window of “Edit tracker” will be brought up.

The other way of bringing “**Edit tracker**” is selecting a tracker from the Trackers List and right clicking the mouse button to bring the tracker menu. Click on **Edit Tracker**



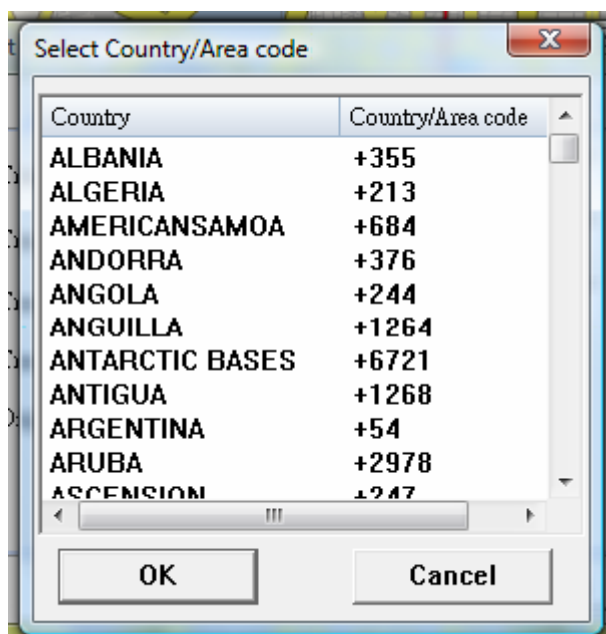
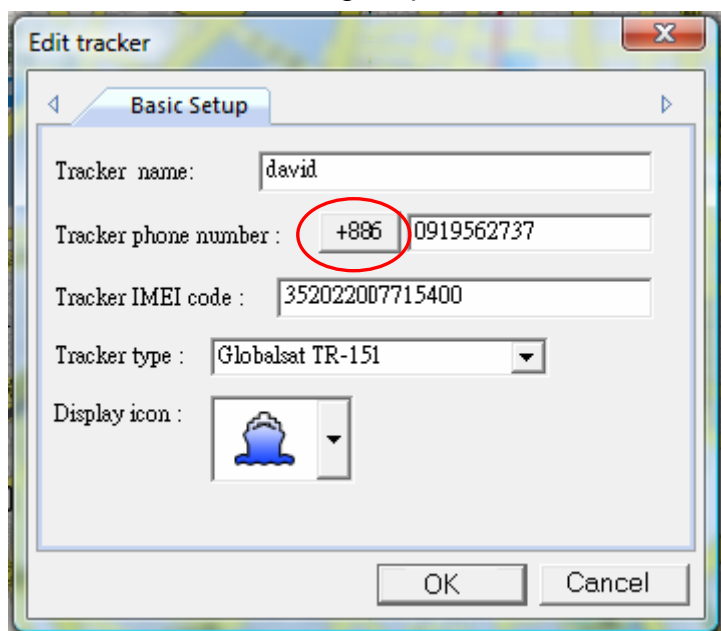
Edit Tracker window

After editing the information, click **OK** to save the setting.

4.2.5 Selecting Country/ Area code

It requires adding country code/Area code prior to the phone number while sending SMS by Skype to TR151 or sending SMS to TR-151 by mobile phone when you and TR-151 are in the different country or area.

Please click the button beside the phone number in the window of **"Edit tracker"** The window for selecting country code/ area code will be brought up.



You can press the first letter of the country name by the keyboard to go to the countries with the same first letter. After selecting the country code, please click OK.

4.3 Instruction of using TR Management Center

4.3.1 Instruction for Beginners

If it is the first time for you to use TR-151, please refer [4.2.1 Adding and setting TR-151 trackers](#) to set TR-151. It will ensure TR-151 can send the report to TR Management center via GPRS network and display the location on the map.

Precautions before use:

1. The SIM card installed in TR-151 should support GPRS connection. This is usually what GSM/GPRS network operators refer to as a 2G or 3G SIM card. Please check if the SIM card supports GPRS connection with your GSM/ GPRS network service provider.
2. Please make sure the computer where you install TR Management center has a fixed IP. If the PC uses a dial-up network, please check the float IP address should be the same IP with TR-151's setting. You can send a SMS to update TR-151's IP address.
3. Please check that the firewall on your computer or router does not block the receiving TCP Port. If this port is not unblocked in the firewall, TR-151 will not be able to send its data to TR Management center through this port.
4. Please consult with your GSM/GPRS network service provider about the GPRS setting, GPRS will not connect properly if the settings are incorrect.
5. In order to send SMS by Skype, please install the Skype software, create a user account and buy Skype credits. The Skype SMS messaging function must be set up correctly as well. Skype only can send SMS. It is unable to receive SMS from TR-151

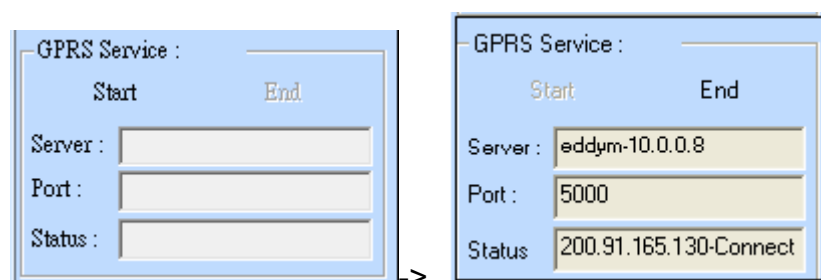
4.3.2 Receiving data from TR-151 via GPRS network

In order to receive report from TR-151 by TR Management Center, there is some setting should be made.

Step 1: Activate GPRS service

Please set the GPRS port. (You can refer to 4.2.1.3 to set GPRS port.) After setting GPRS port, please activate GPRS server

To activate the GPRS service, please click the "**Start**" button at GPRS Service. After activating the GPRS service, the GPRS service status will be shown as the right screen below.

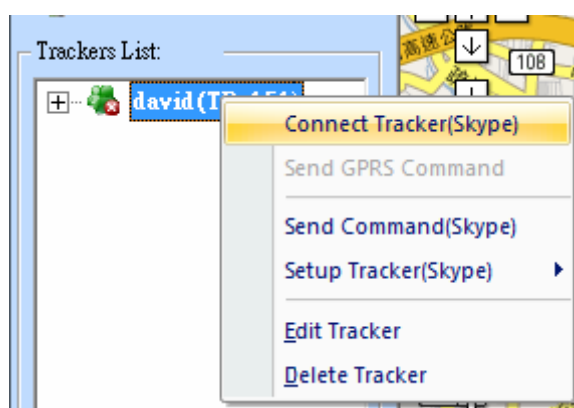


Step 2: Send command to connect TR-151 or wait TR-151 to connect to TR Management center automatically.

Please refer 4.2.1.1 and check what the default report mode you set for TR-151 is. If the default report mode of TR-151 is "GPRS immediate report" or "GPRS period report", TR-151 will automatically connect to TR Management center after it is powered on every time.

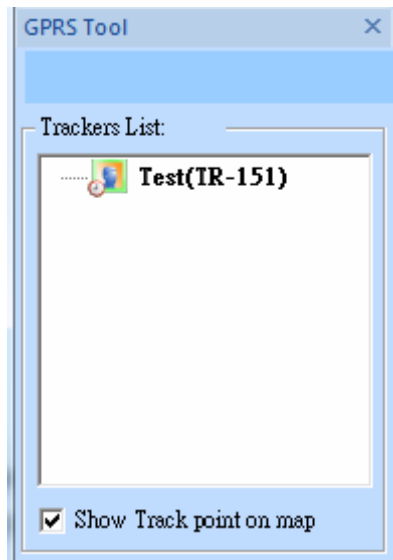
If the default report mode is "SMS immediate report" or "SMS period report" or "stop", it requires TR Management to send SMS by Skype to TR-151 to make GPRS connection with the TR Management center.

Please select the TR-151 under Tracker list and right click the mouse to bring out the menu as below..



Please select "Connect Tracker (Skype)" to ask TR-151 to make GPRS immediate report to TR Management center.

Step 3: When TR-151 is making GPRS connection with TR Management center, you will see TR-151 show the status on the tracker list as the screen below.

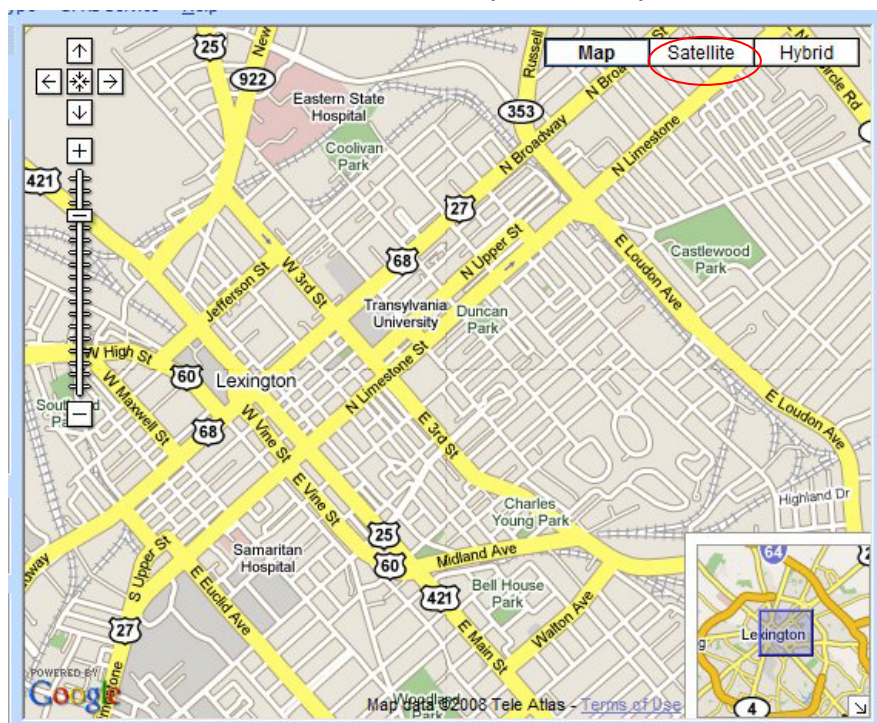


TR-151 will send a SMS with the content of OK to mobile phone and send the position report to TR Management center shown as the picture below.

Output										
Name	Source_Tel	Local_Date	Local_Time	Gps_lat	Gps_lon	Gps_date	gps_time	gps_status	gps_alti...	
Test	0934567890	2008/04/28	10:38:03	22.33774	114.20454	2008/04/28	18:38:03	GPS 3D Fix	00161	(
Test	0934567890	2008/04/28	10:37:58	22.33613	114.20472	2008/04/28	18:37:58	GPS 3D Fix	00161	(
Test	0934567890	2008/04/28	10:37:53	22.33522	114.20490	2008/04/28	18:37:53	GPS 3D Fix	00161	(

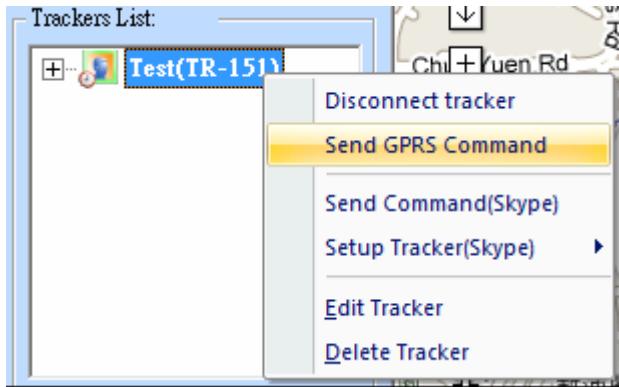
Below the table are navigation buttons: '< < > >' and tabs: 'GPRS Data', 'GPRS Log', 'Query Result'.

You can make the location of that position report to show on Google map by clicking that report.



You can also click Satellite to see the location on satellite map.

Step 4: Send commands to TR-151 for asking report via GPRS network



Select a connected TR-151 and right click the mouse to bring up the option menu. You can click “**Send GPRS Command**” to ask TR-151 to send position report to TR Management center.

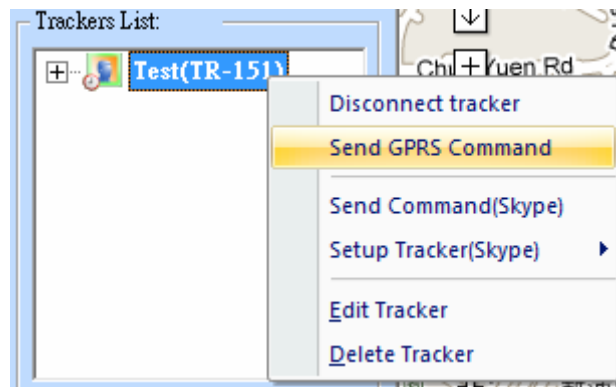
Below please find the description of the option menu

Item	Description
Connect Tracker	Make the GPRS connection between this TR-151 and TR Management center by sending SMS via Skype
Disconnect Tracker	Cut the GPRS connection between this TR-151 and TR Management center
Send GPRS Command	Make commands to TR-151 for asking immediate report or periodic report or stop report via GPRS network
Send Commmand (Skype)	Send commands by Skype’s SMS to ask TR-151 to make the report or start voice monitoring
Setup Tracker (Skype)	Set the parameters of TR-151’s functions by Skype’s SMS
Edit Tracker	Edit the basic information of this TR-151
Delete Tracker	Delete this TR-151 from tracker list

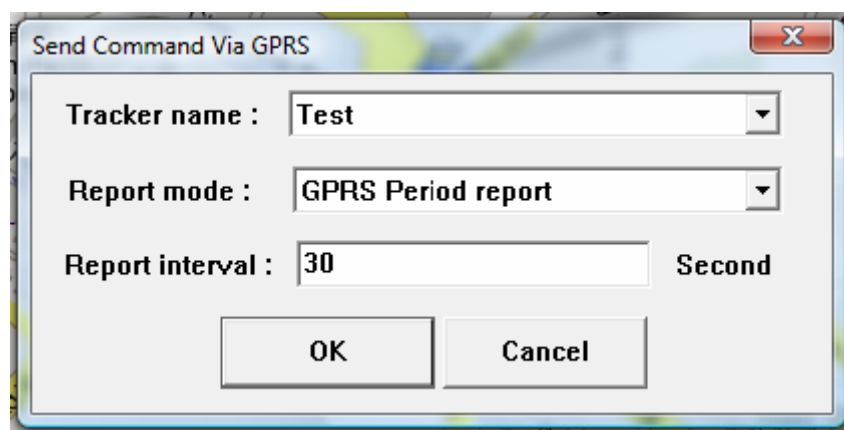
4.3.3 Send GPRS command to TR-151

Before sending GPRS commands to TR-151, please refer to 4.3.2 to make GPRS connection between TR-151 and TR Management center.

Step1: Select a connected TR-151, right click the mouse to bring up the option menu, and select “Send GPRS command”



After clicking Send GPRS Command, the window for selecting commands will be brought as below.



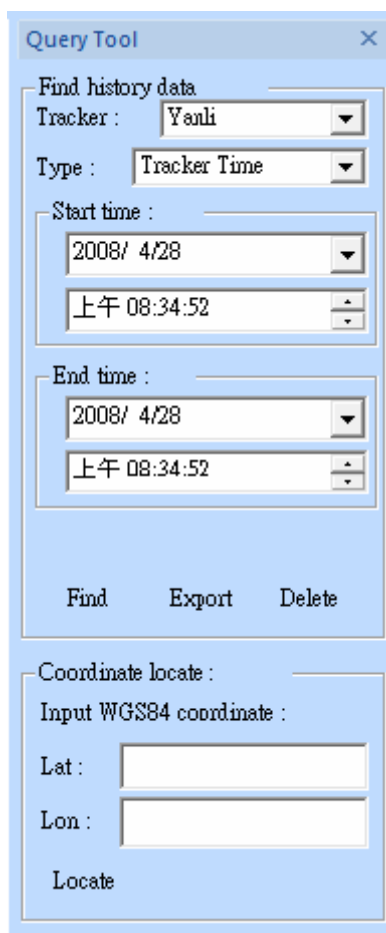
Item	Description
GPRS Immediate Report	Ask the connected TR-151 to report its latest position immediately.
GPRS Period Report	Ask the connected TR-151 to report according to the Report interval periodically
Stop Report	Ask the connected TR-151 to disconnect from TR Management center
Disconnect and Period Report	Ask the connected TR-151 to disconnect from TR Management center and then periodically according to the report interval

4.4 TR Management Center Data Query

All the data sent from TR-151 will be stored in the database of TR Management center. You can make this data show on Google map or export them into KML format.

4.4.1 Look up for history data

You can look up for the history data that TR-151 sent to TR Management center by Query Tool.



"Query Tool"

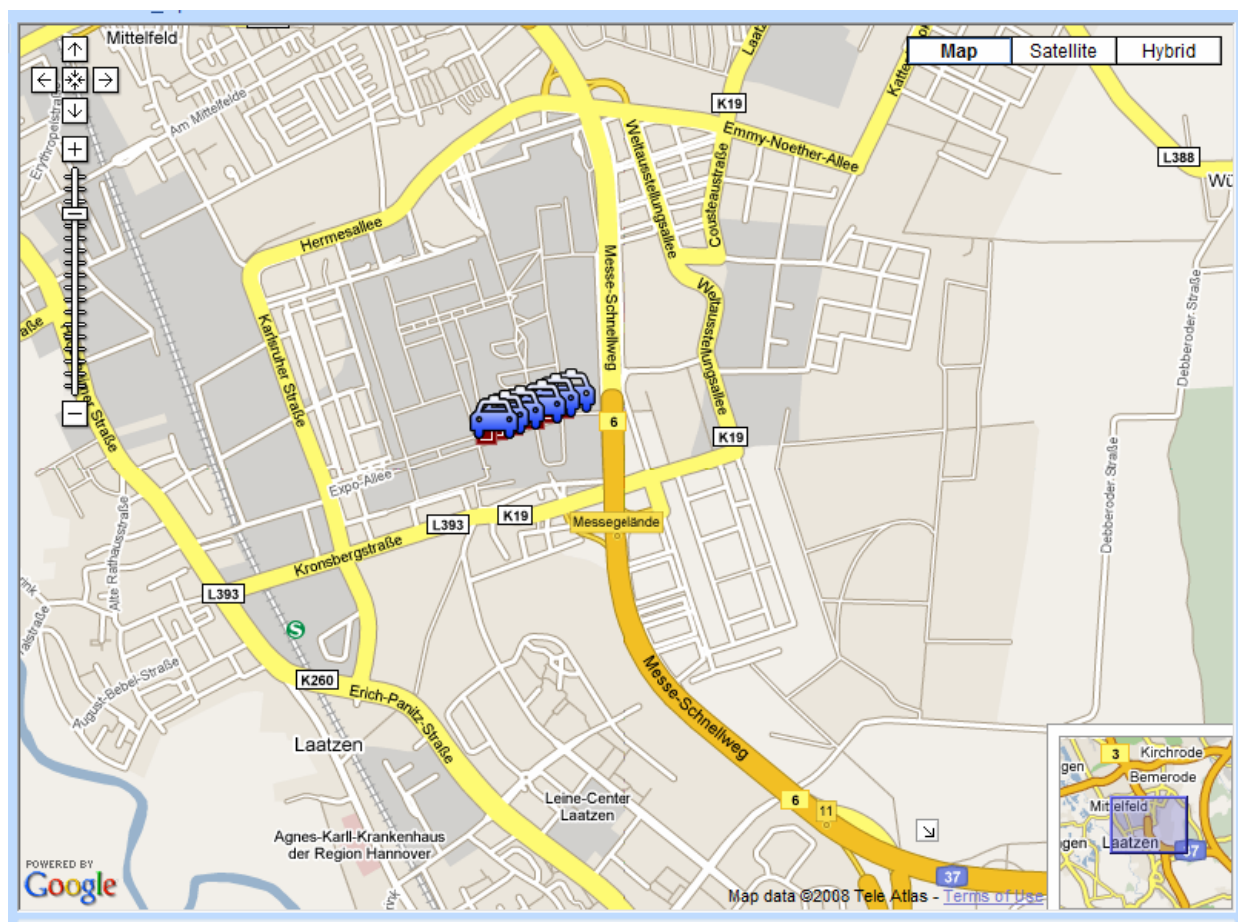
Item	Description
Tracker	Select the tracker whose history data you'd like to look up for
Type	To look up for the data according to the time of Tracker's timer (Tracker Time) or the receiving time of the PC (Local Time)
Start time	The start time of the period of looking up the history data
End Time	The end time of the period of looking up the history data
Find	Start to look up for the data
Export	Export the data into KML format
Delete	Delete query results

After specifying all the queried conditions, click the **Find** button and the query results will be shown on the Data Output Area..

Output									
Name	Source_Tel	Local_Date	Local_Time	Gps_lat	Gps_lon	Gps_date	gps_time	gps_status	gps_alti...
Test		2008/04/28	10:38:03	22.33774	114.20454	2008/04/28	18:38:03	GPS 3D Fix	00161
Test		2008/04/28	10:37:58	22.33613	114.20472	2008/04/28	18:37:58	GPS 3D Fix	00161
Test		2008/04/28	10:37:53	22.33522	114.20490	2008/04/28	18:37:53	GPS 3D Fix	00161

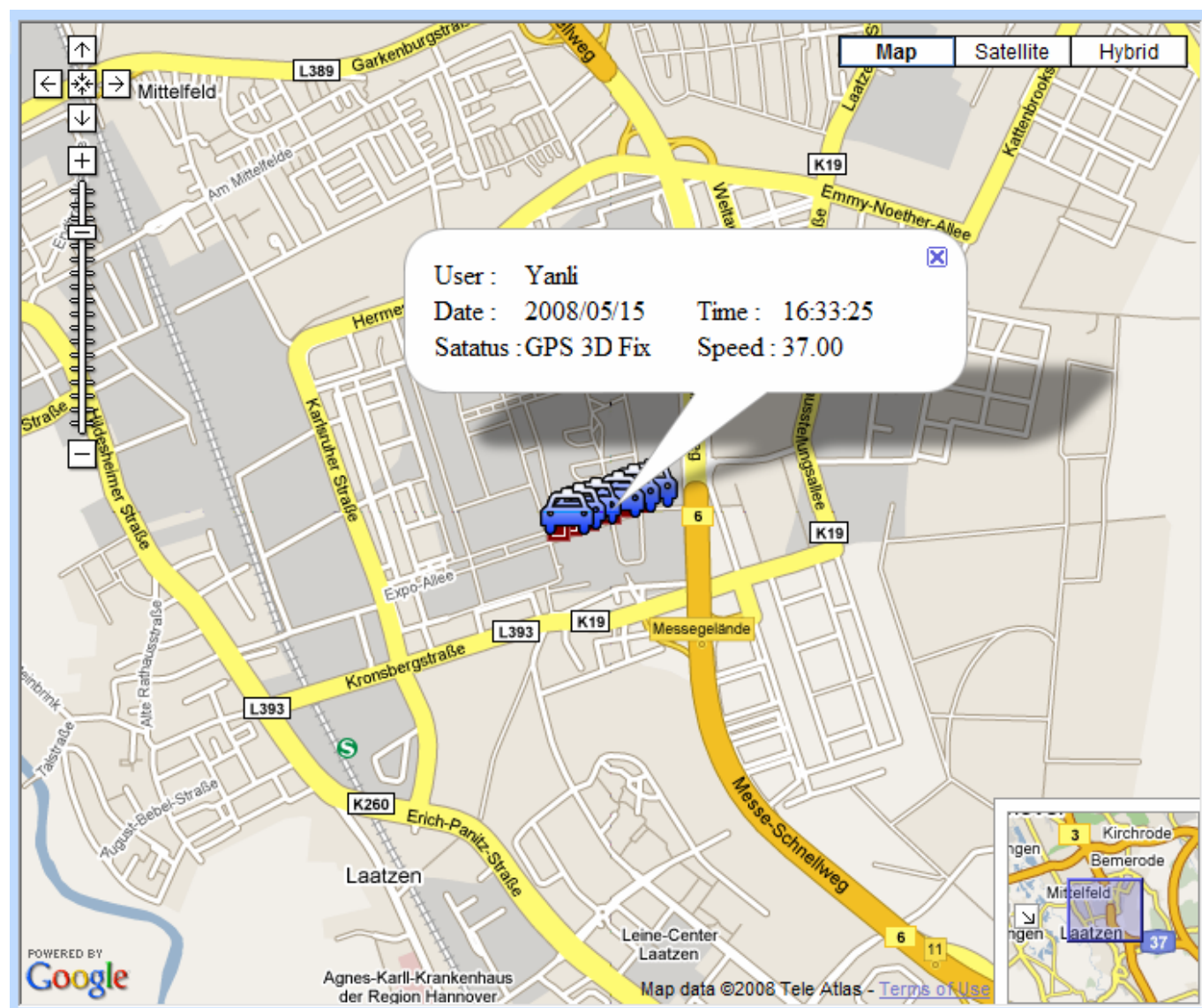
Query Result list

The results will also be shown on the Google Map.



Query results displayed on the Google Map

If you select a piece of result under the Data Output Area, its location and corresponding details will be shown on the Google Map.



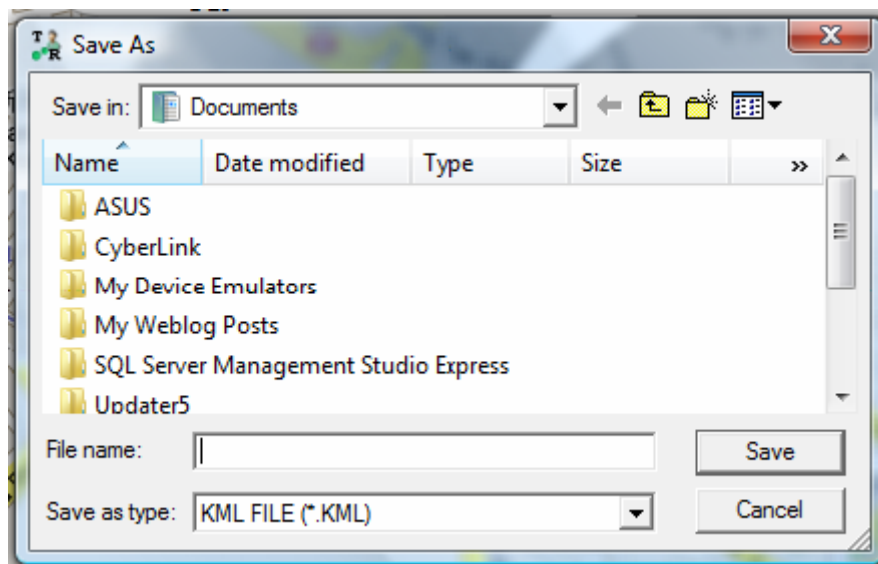
If you click on one of the tracker icon on the Google map, the selected tracker's data under Data Output Area will be highlighted.

4.4.2 Export the data into KML format

You can export the queried data into KML format for others to show the data on the Google map or Google earth.

Step 1: Please refer to 4.4.1 to look up for the history data.

Step 2: Please click the **Export** button on the Query Tool. And then enter a name for the exported data in the field of File name.

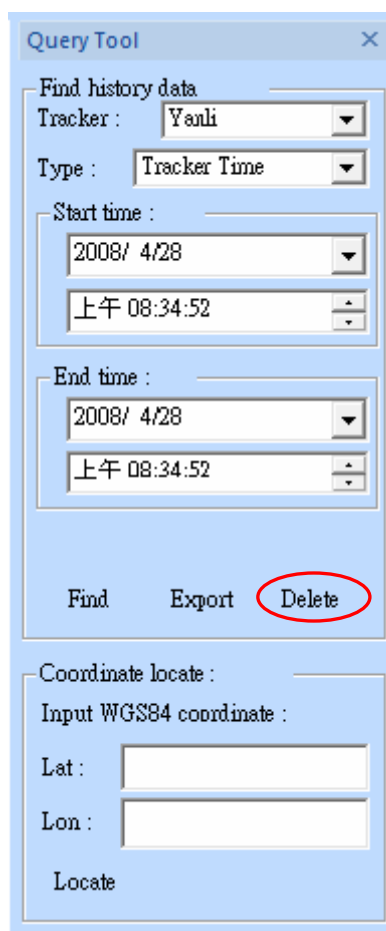


Enter a name for the exported KML file

4.4.3 Delete the history data in the database

You can delete the history data in the database.

Step 1: Select the name of the tracker and time interval whose data you'd like to delete.



Step 2: Click the **Delete** button.

4.5 Send SMS by Skype to set TR-151

In [4.2.1 Adding and setting a TR-151](#), you can connect TR-151 with TR Management center by the USB cable to set its parameters. You can also set its parameters by SMS via the Skype software in the TR Management center.

For the requirement of sending SMS by Skype, please refer to [3.4 Skype setup](#).

4.5.1 Set Geo-fence

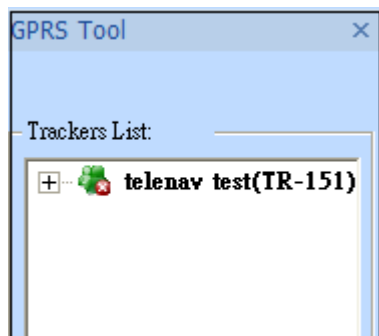
Geo-fence is that setting a rectangular or circular area as permissible area or restricted area. When TR-151 gets out the permissible area or goes in to the restricted area, TR-151 will send its location to the preset mobile phone number via SMS or to TR Management center via GPRS network.

You can send SMS by Skype to make TR-151 enter SMS Geo-fence mode or GPRS Geo-fence mode. The contents of SMS include choosing the rectangular or circular areas (**Rectangle** or **Circle**) , getting in the restricted areas or getting out the permissible areas to send alarm (**In Geo-fence** or **Out Geo-fence**) , time intervals of alarm report (**Report interval**), **Number of reports**, and **Report format**.

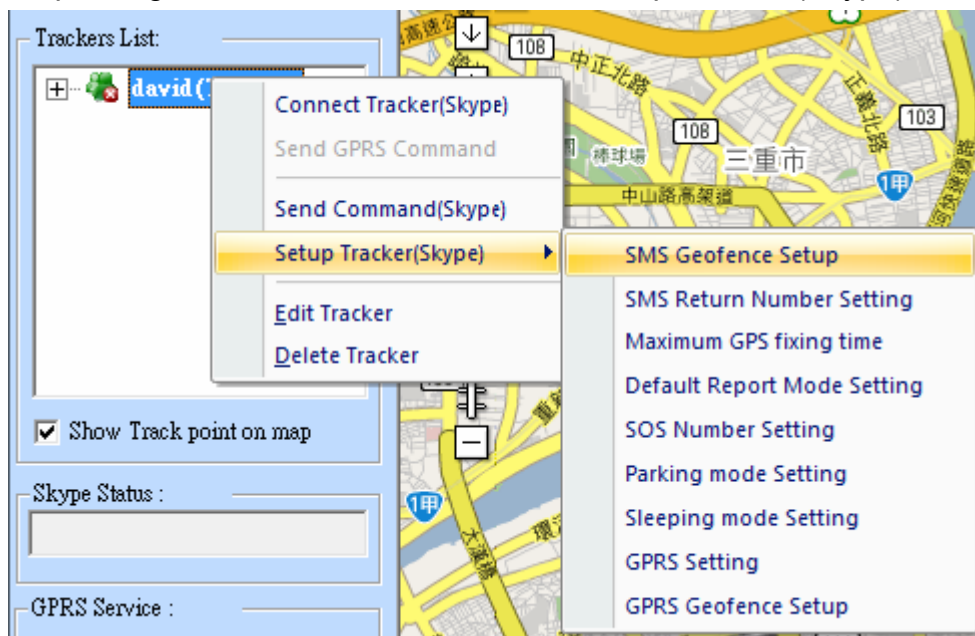
TR-151 will start to get fixed of the location as soon as it enters Geo-fence mode. TR-151 will keep fixing the location. Once TR-151 detect it enters restricted area or gets out the permissible area, it will send its location to the preset mobile phone number via SMS or to TR Management center via GPRS network.

4.5.1.1 Set TR-151 to send Geo-fence location report to mobile phone

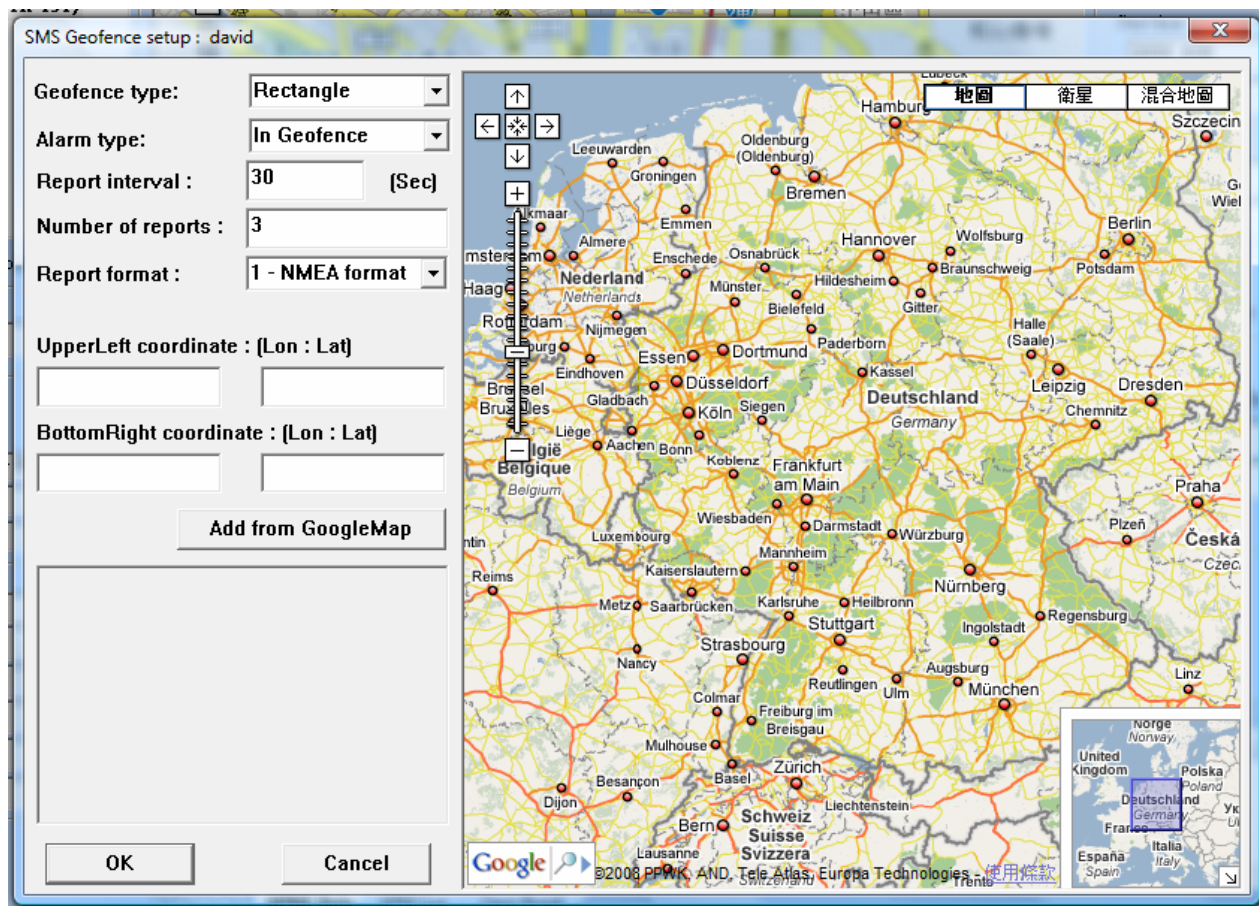
Step1: Select the tracker requires Geo-fence setting from Tracker List.



Step 2: Right click the tracker and select Setup Tracker (Skype) → SMS Geo-fence Setup



Step 3: Enter and select the parameters of Geo-fence SMS on the window of SMS Geo-fence setup.



You can refer to the table below for the meaning of the Geo-fence parameters.

Item	Description
Geofence Type	Choose to set a rectangular (Rectangle) or a circular (Circle) area
Alarm Type	Choose to send location report when TR-151 gets in (In Geofence) or get out (Out Geofence) the area
Report interval	The interval of sending location report when TR-151 disobey Geo-fence rule
Number of reports	How many reports TR-151 will send when TR-151 disobey Geo-fence rule
Report format	Choose the report format as NEMA format or text format
Upper Left coordinate	The coordinates of the Geofence's upper left corner (Rectangle)
Bottom Right coordinate	The coordinates of the Geofence's lower right corner (Rectangle)
Center point	The coordinates for the center of the Geofence (Circle)
Radius	Geofence radius (Circle)

Step 4: Click **OK** to send out the setting of Geo-fence to the TR-151 BY Skype's SMS.

A dialog window for informing that Skype has sent out the SMS will appear. You can operate the other functions during the process of sending SMS.

NOTE: In addition to enter the coordinates to set the Geo-fence, you can also draw a rectangular or circular area on the Google map to set the Geo-fence.

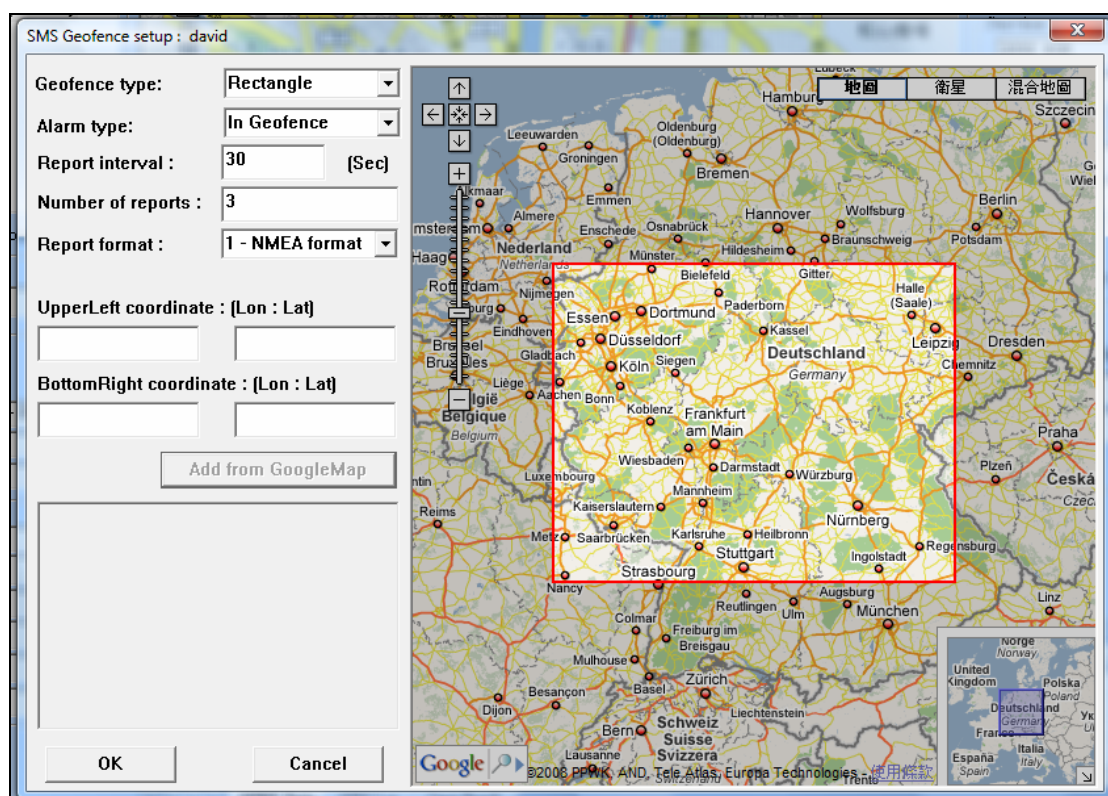
Draw a rectangular area on the Google map to set Geo-fence:

Step 1: Select **Rectangle** in the field of Geo-fence type.

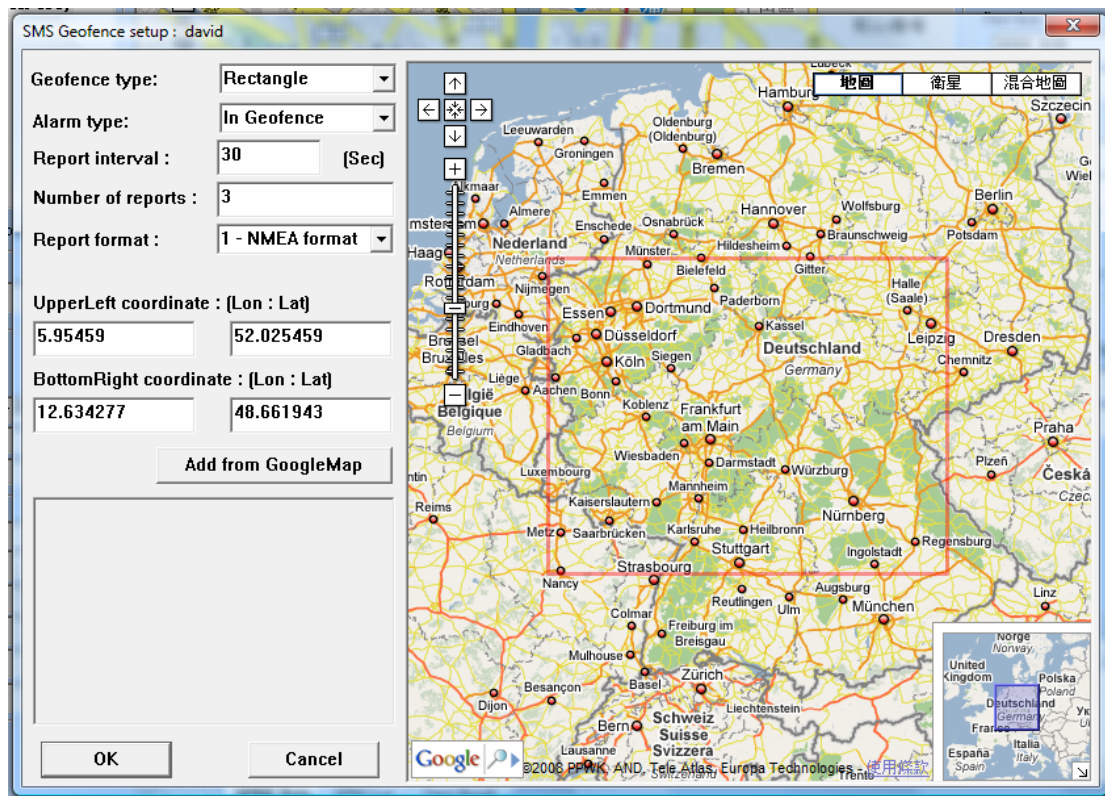
Geofence type:

Step 2: Click the **Add from Google Map** button

Step3: Click and drag the mouse to draw a rectangle as the Geo-fence range on the Google map. The coordinates of the upper left corner and bottom right corner will be automatically loaded to the field of coordinate.



Drawing the rectangular area with the mouse



Loads the coordinates into the coordinate fields

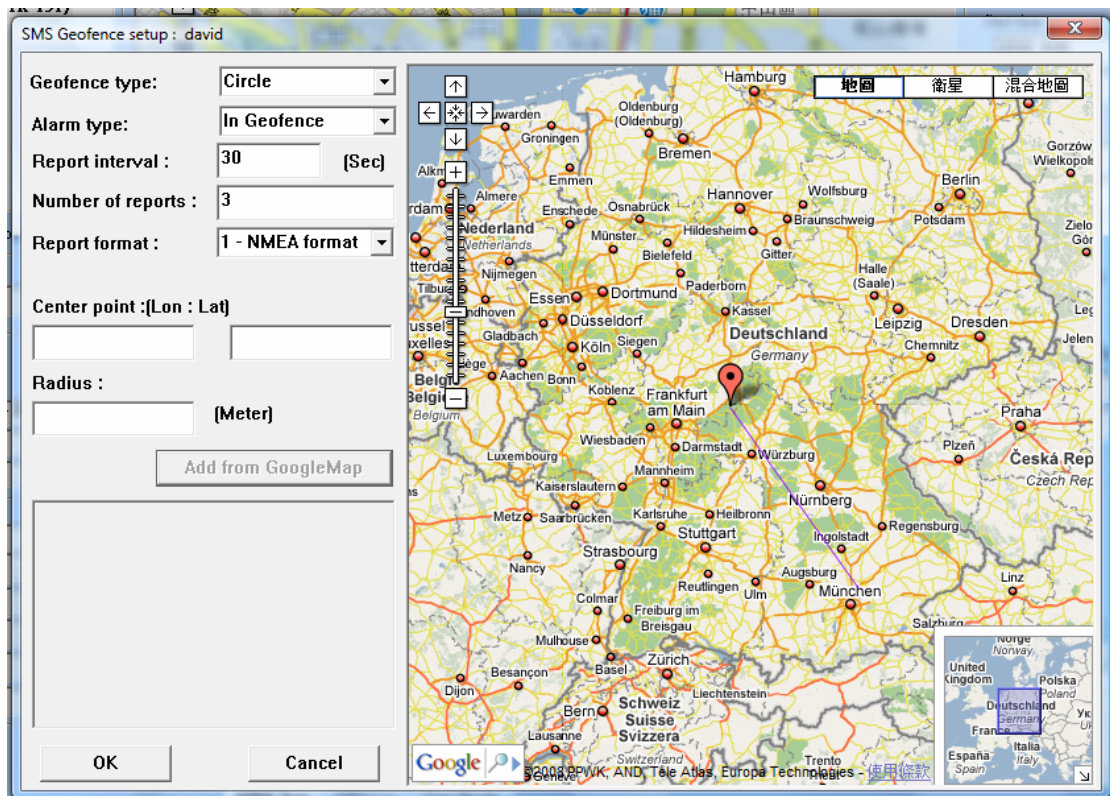
Draw a circular area on the Google map to set Geo-fence:

Step 1: Select **Circle** in the field of Geo-fence type.

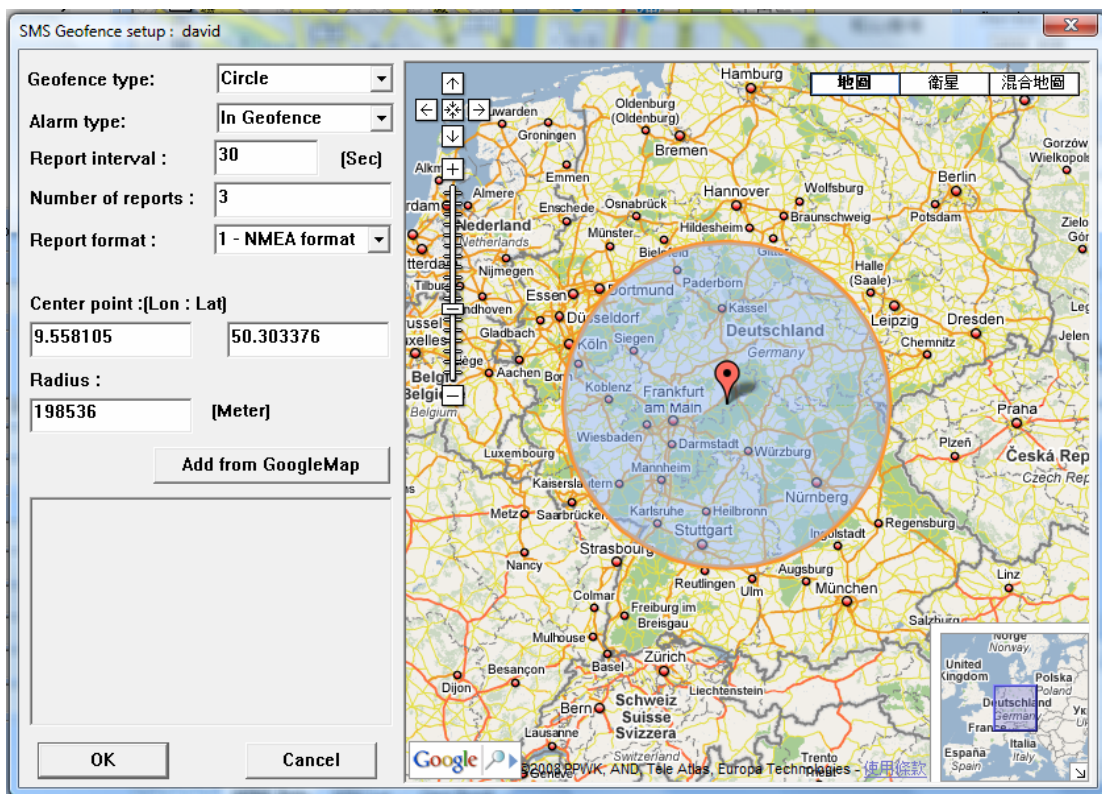
Geofence type:

Step 2: Click the **Add from Google Map** button

Step 3: Left click on one point of the Google map as the central point of the circle. A balloon icon will appear. Drag the mouse to the position of the other side of the radius, and then left click the mouse. The circle will be shown on the Google map. And the coordinate of the central point and the radius will be automatically loaded into the fields.



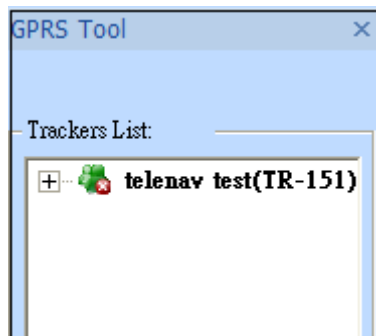
Clicking on the center and moving the cursor will make a line appear



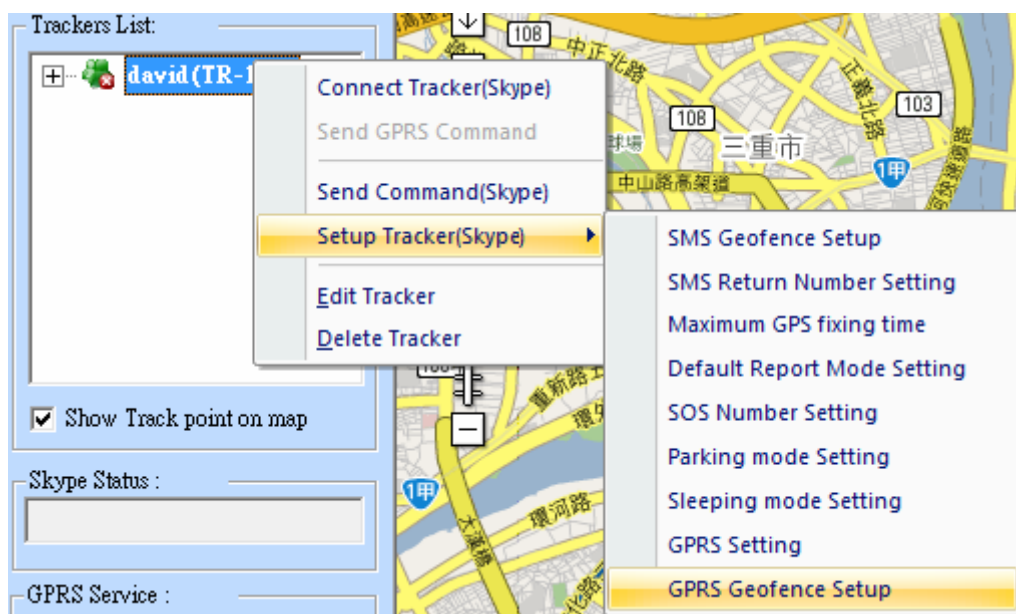
The system loads the center coordinates and radius into the coordinate fields

4.5.1.2 Set TR-151 to send Geo-fence location report to TR Management center

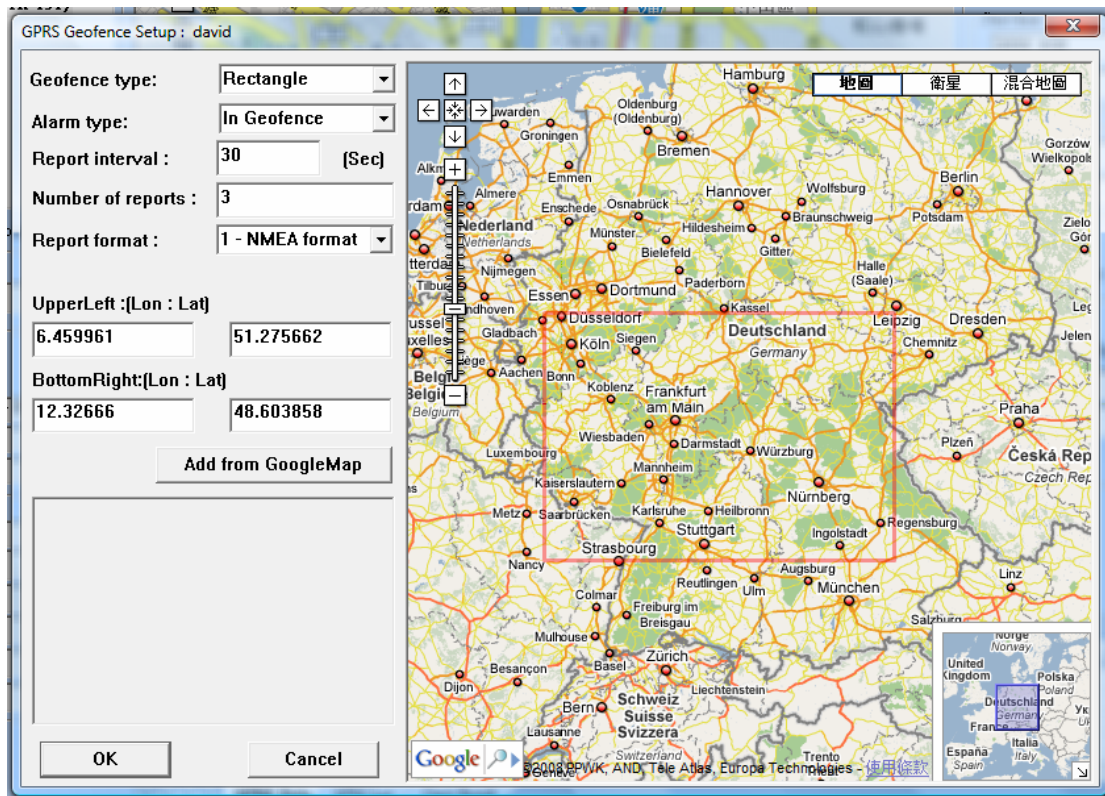
Step1: Select the tracker requires Geo-fence setting from Tracker List.



Step 2: Right click the tracker and select Setup Tracker (Skype) → GPRS Geo-fence Setup



Step 3: Enter and select the parameters of Geo-fence GPRS on the window of GPRS Geo-fence setup.



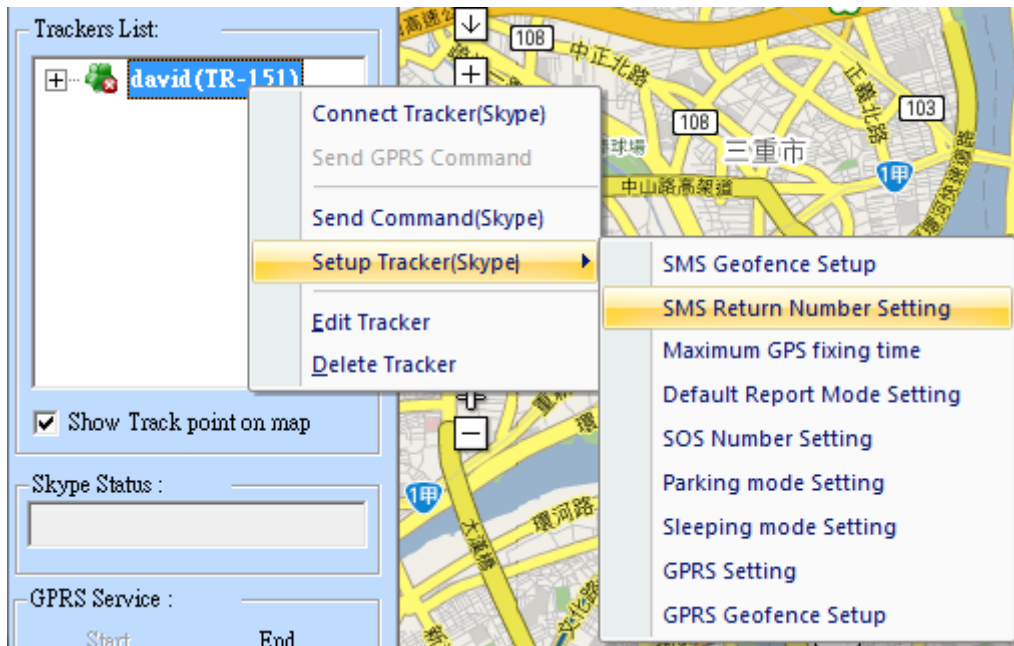
Step 4: Click OK to send out the setting of Geo-fence to the TR-151 BY Skype's SMS.

You can refer to 4.5.1.1 to set the coordinates of Geo-fence by drawing rectangles or circles on the Google map.

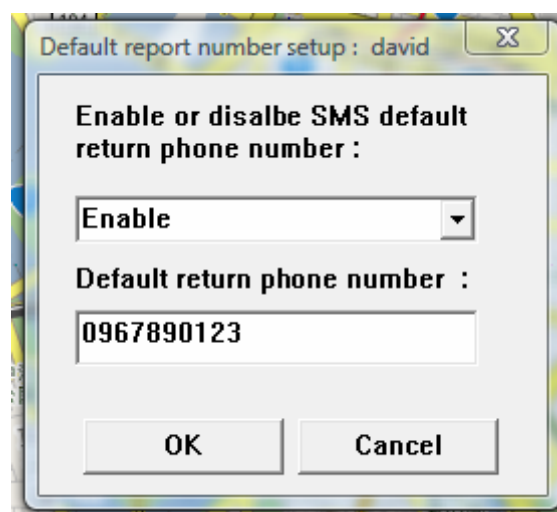
4.5.2 Set the SMS default return phone number

You can enable or disable the SMS default return phone number and assign the phone number as the default for receiving return SMS.

Step 1: Select the TR-151 and right click to select Setup Tracker (Skype) → SMS Return Number Setting.



Step 2: Choose to Enable or Disable the SMS default return phone number. If you select to enable the SMS default return phone number, please enter the phone number.

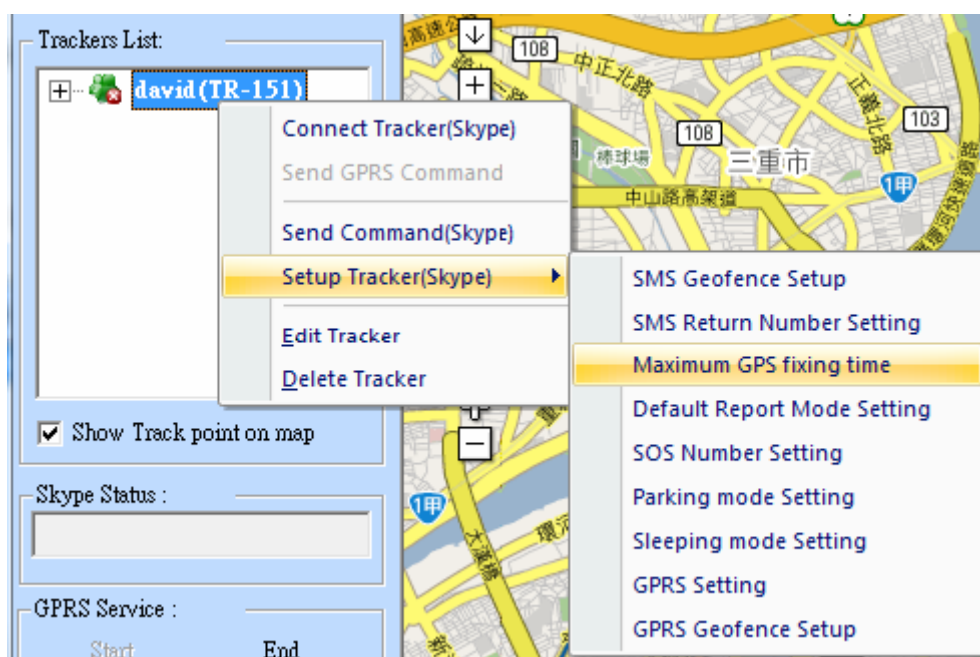


Step 3: Click **OK** button to send out the setting by Skype's SMS.

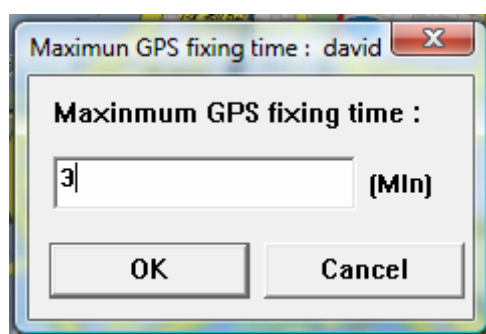
4.5.3 Set the Maximum GPS Fixing Time

You can set a period of time for TR-151 to get fixed of the location. When TR-151 cannot get fixed of the location within the period, TR-151 will send out the last location report.

Step 1: Select the TR-151 and right click to select Setup Tracker (Skype) → Maximum GPS fixing time



Step 2: Enter the value for Maximum GPS fixing time.

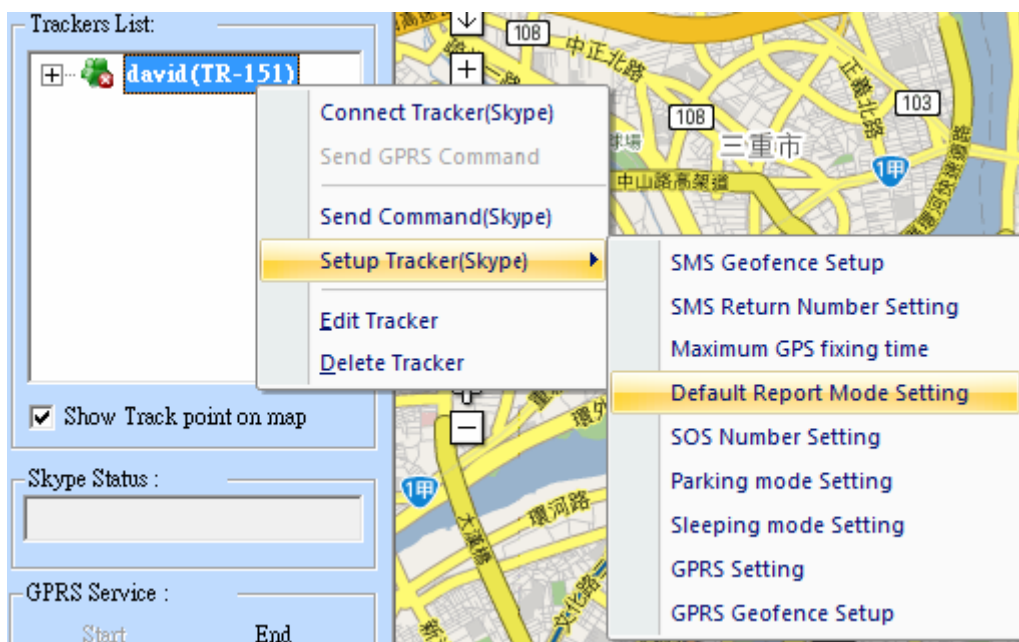


Step 3: Click **OK** button to send out the setting by Skype's SMS.

4.5.4 Set default report mode

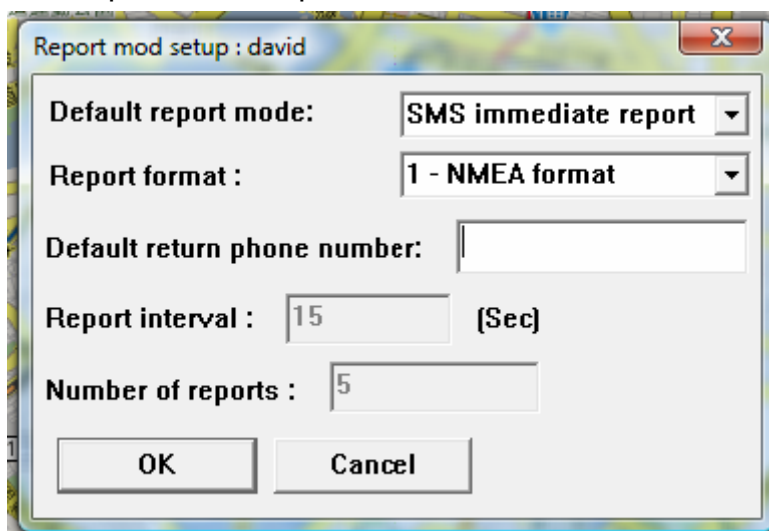
You can set the default report mode for TR-151. When TR-151 is powered on, it will enter the default report mode.

Step 1: Select the TR-151 and right click to select Setup Tracker (Skype) → Default Report Mode Setting



Default report mode menu

Step 2: Select the default report mode, report format, and enter the concerning parameters.



You can refer tot the table below to enter the parameters.

Item	Description
Default report mode	Select the report mode after TR-151 is powered on
Report format	Select NEMA format or text format
Default return phone number	Enter the phone number for receiving SMS of default

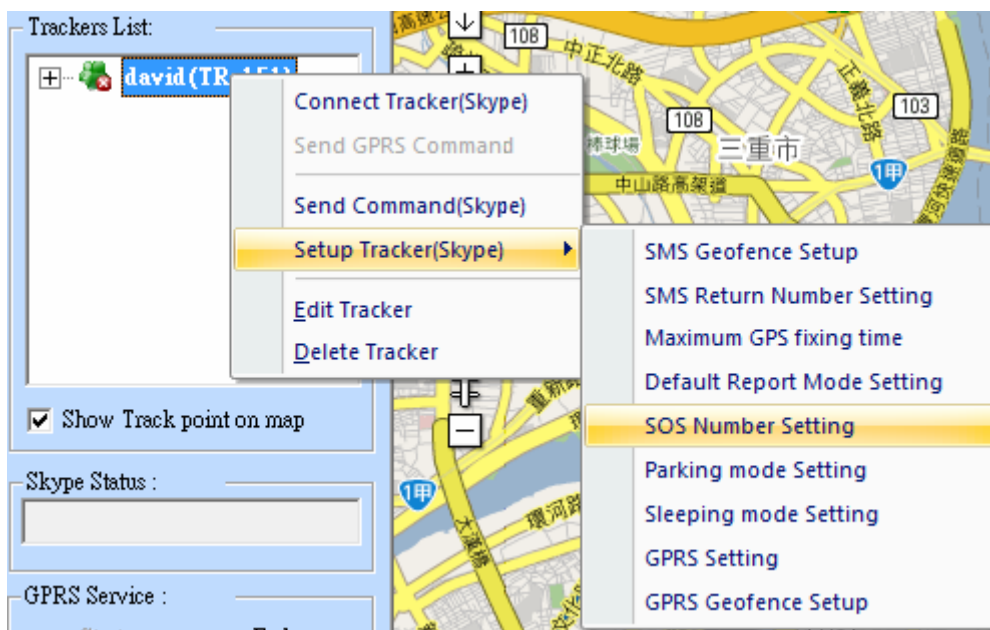
	report mode
Report interval	Enter the interval between 2 reports
Number of reports	Enter how many reports will be sent out in the default report mode

Step 3: Click **OK** button to send out the setting by Skype's SMS.

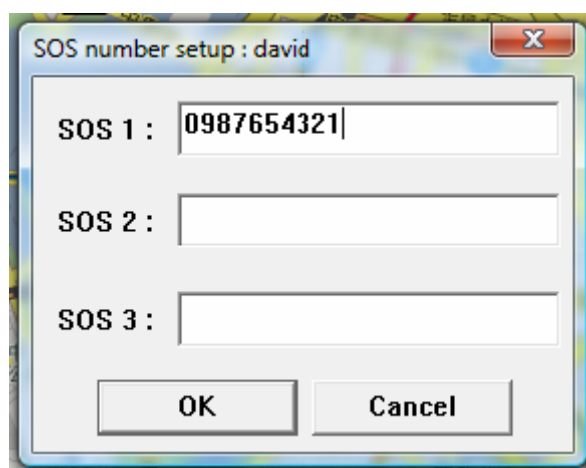
4.5.5 Set SOS phone number

You can set the phone number for receiving emergency report after SOS button is pressed.

Step 1: the TR-151 and right click to select Setup Tracker (Skype) → SOS Number Setting



Step 2: Enter the phone number for receiving emergency report after SOS button is pressed.



Step 3: Click **OK** button to send out the setting by Skype's SMS.

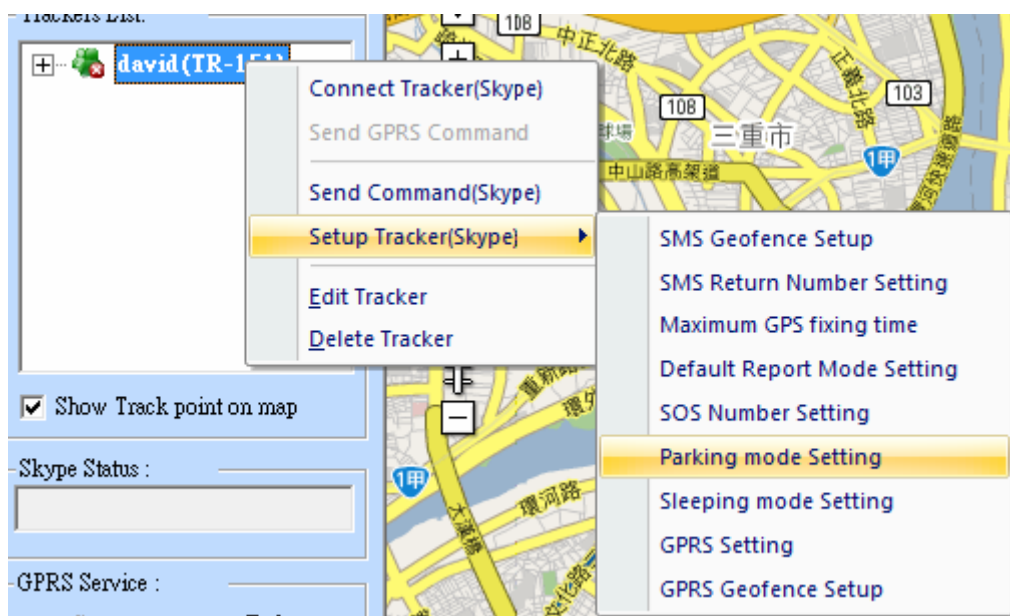
4.5.6 Set the Parking Mode's parameters

When TR-151 is under Parking Mode, it will turn off the GPS module and turn on motion sensor. It can still receive SMS. When TR-151 senses vibration over the value of sensitivity under parking mode, it will send out location SMS.

You have to press the power button when TR-151 is powered on to make TR-151 enter parking mode.

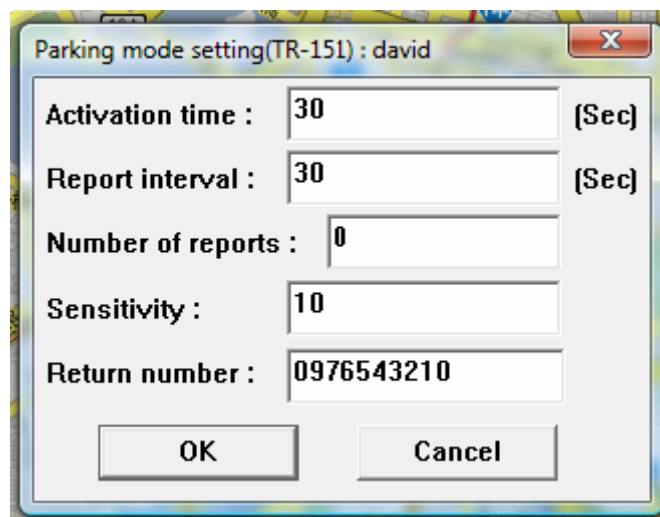
You can set the parameters of parking mode by Skype's SMS.

Step 1: the TR-151 and right click to select Setup Tracker (Skype) → Parking Mode Setting



Step 2: Enter the parameters on the window of parking mode setting.

You can refer to [4.2.1.2 Parking and sleeping mode setup](#) to enter the parameters



Step 3: Click **OK** button to send out the setting by Skype's SMS

NOTE:

1. If you enter 0 in the field of **Number of reports**, TR-151 will not stop sending the report until TR-151 does not sense the vibration.
2. The Sensitivity is that while TR-151 senses the vibration over the sensitivity, it will send out the position report.

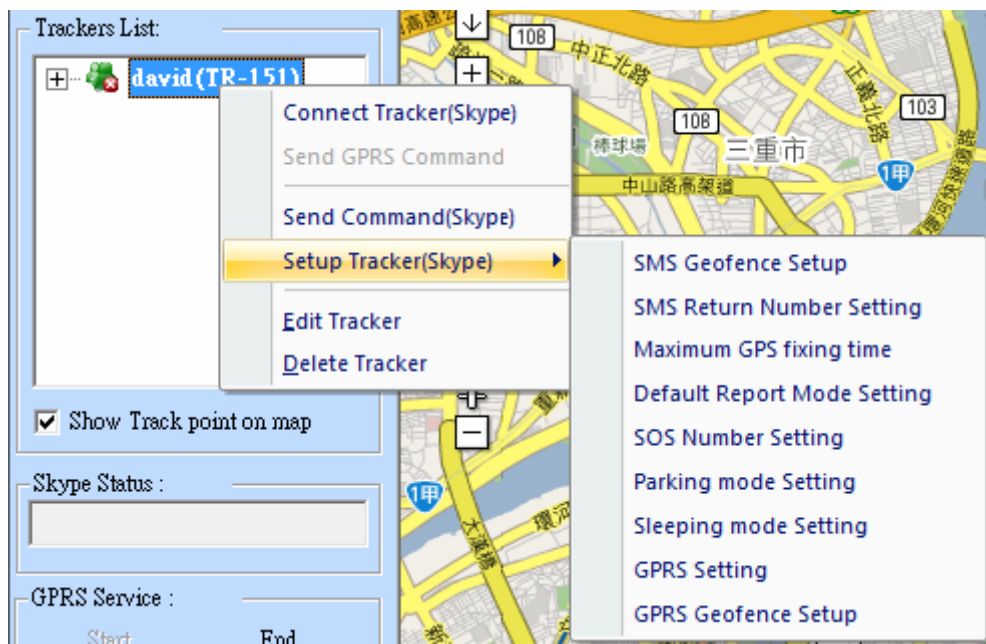
4.5.7 Set the Sleeping Mode's parameters

When TR-151 is under sleeping mode, its GSM module and GPS module will be turned off, the motion sensor will be turned on. Just like being under parking mode, it will send out SMS while it senses vibration. But TR-151 will not receive SMS under sleeping mode.

Making TR-151 to enter sleeping mode, you have to adjust DIP switch 4 to ON when TR-151 is powered off.

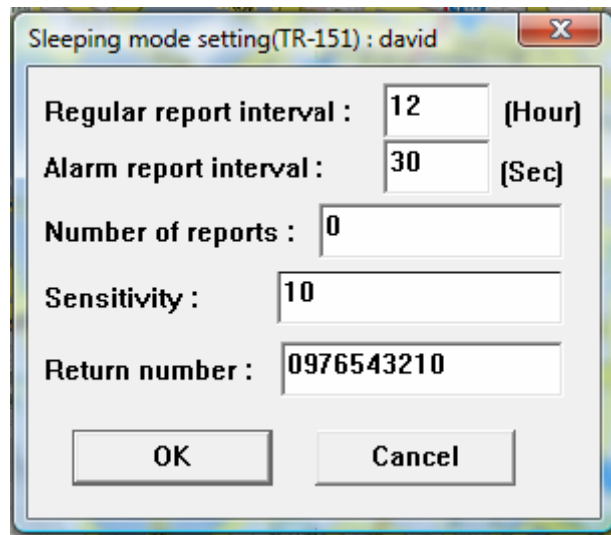
You can set the parameters of sleeping mode by Skype's SMS.

Step 1: Select the TR-151 and right click to select Setup Tracker (Skype) → Sleeping Mode Setting



Step 2: Enter the parameters on the window of sleeping mode setting.

You can refer to [4.2.1.2 Parking and sleeping mode setup](#) to enter the parameters



Step 3: Click **OK** button to send out the setting by Skype's SMS

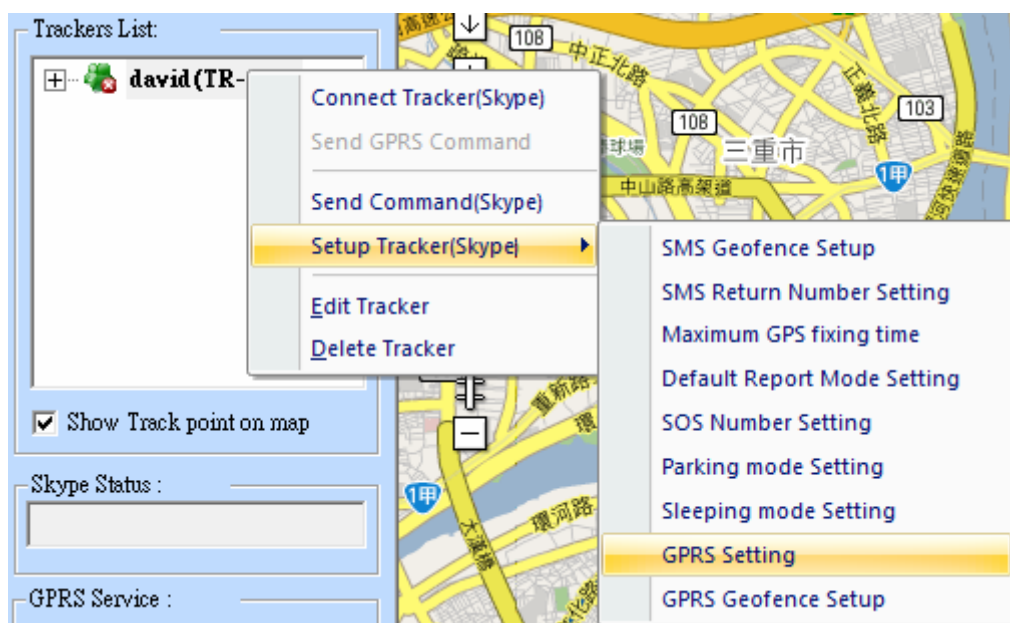
NOTE:

1. If you enter 0 in the field of **Number of reports**, TR-151 will not stop sending the report until TR-151 does not sense the vibration.
2. The Sensitivity is that while TR-151 senses the vibration over the sensitivity, it will send out the position report.

4.5.8 Set the GPRS parameters

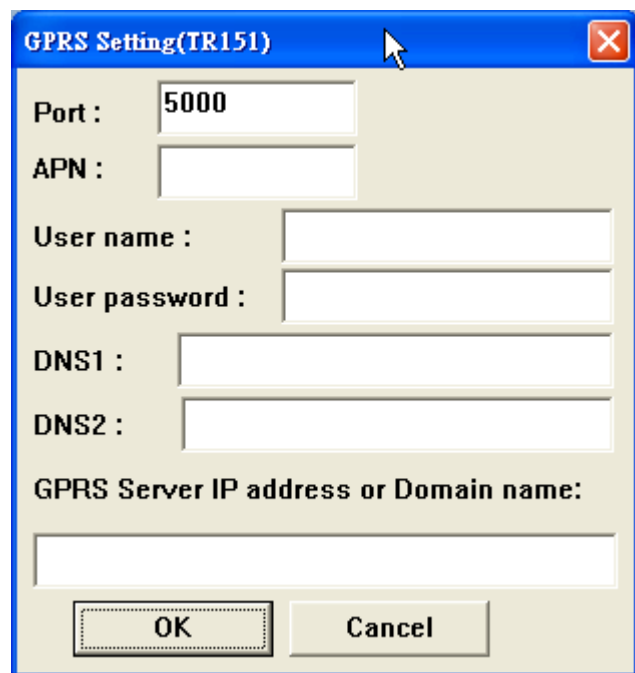
You can set the GPRS parameters by Skype's SMS.

Step 1: Step 1: Select the TR-151 and right click to select Setup Tracker (Skype) → GPRS Setting



Step 2: Enter the parameters on the window of GPRS setting.

You can refer to [4.2.1.3 TR-151 GPRS setting](#) to enter the parameters



The image shows a Windows-style dialog box titled "GPRS Setting(TR151)". It has a blue title bar with a close button (X) on the right. The dialog contains the following fields and labels:

- Port :** A text box containing the value "5000".
- APN :** An empty text box.
- User name :** An empty text box.
- User password :** An empty text box.
- DNS1 :** An empty text box.
- DNS2 :** An empty text box.
- GPRS Server IP address or Domain name:** An empty text box.

At the bottom of the dialog, there are two buttons: "OK" and "Cancel".

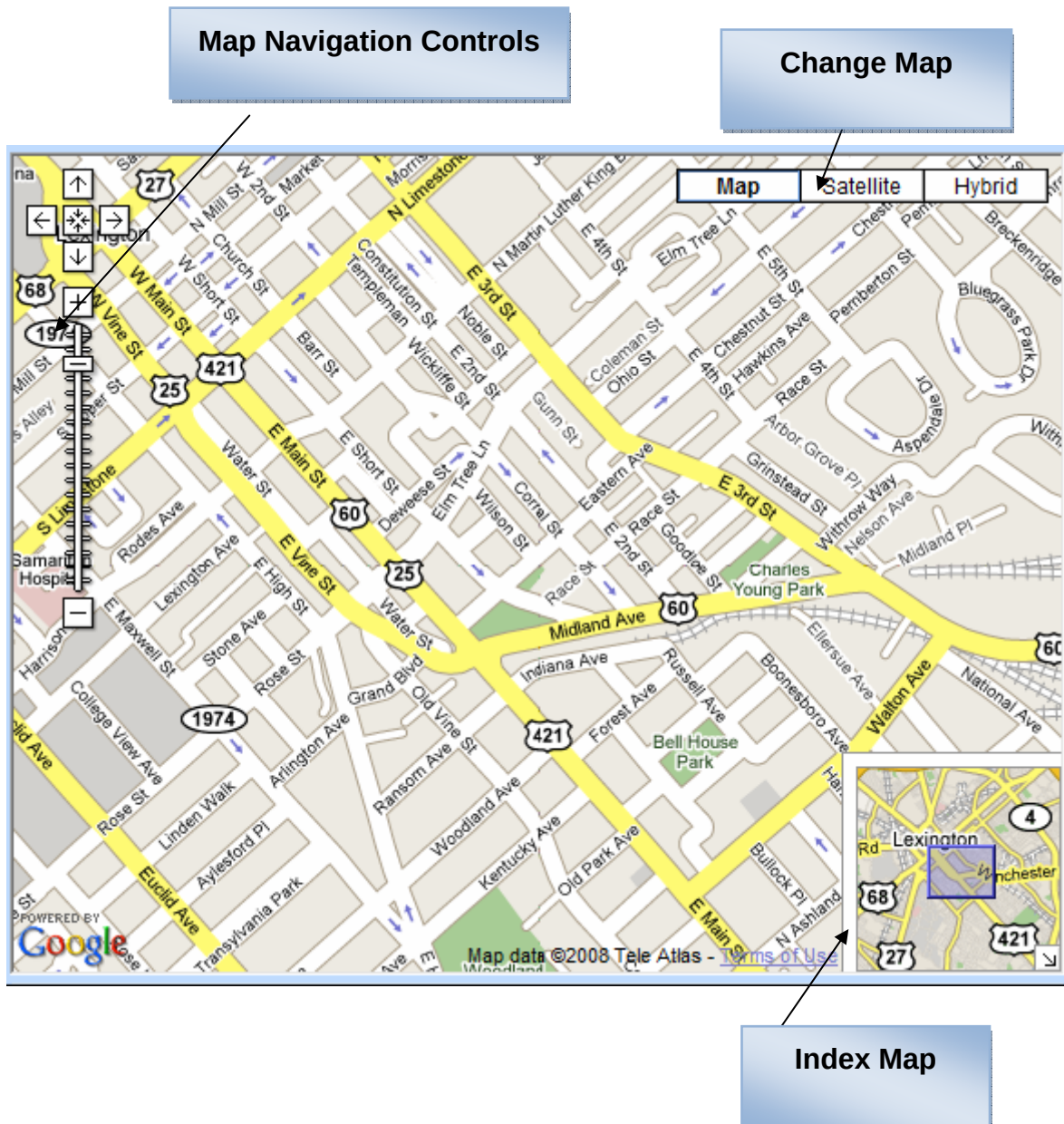
Step 3: Click **OK** button to send out the setting by Skype's SMS

4.6 Using Google Map

Google Map is an online map developed by Google Inc. It offers access to major maps of the world and is constantly updated.

As Google Map is integrated into TR Management center, TR Management center can work under Internet connected status. If you start TR Management center under no Internet connection, a warning window of No Internet connection will appear.

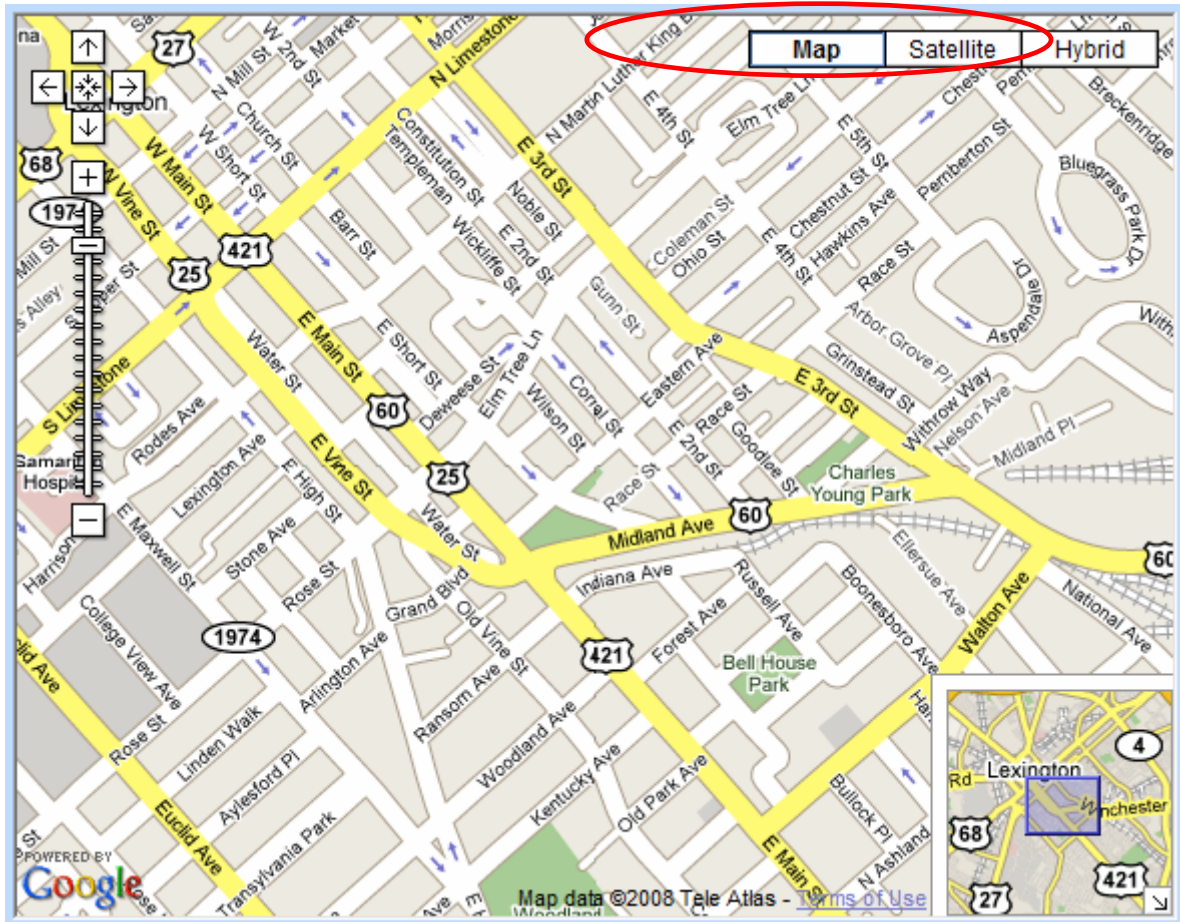
Below please see the introduction of Google Map



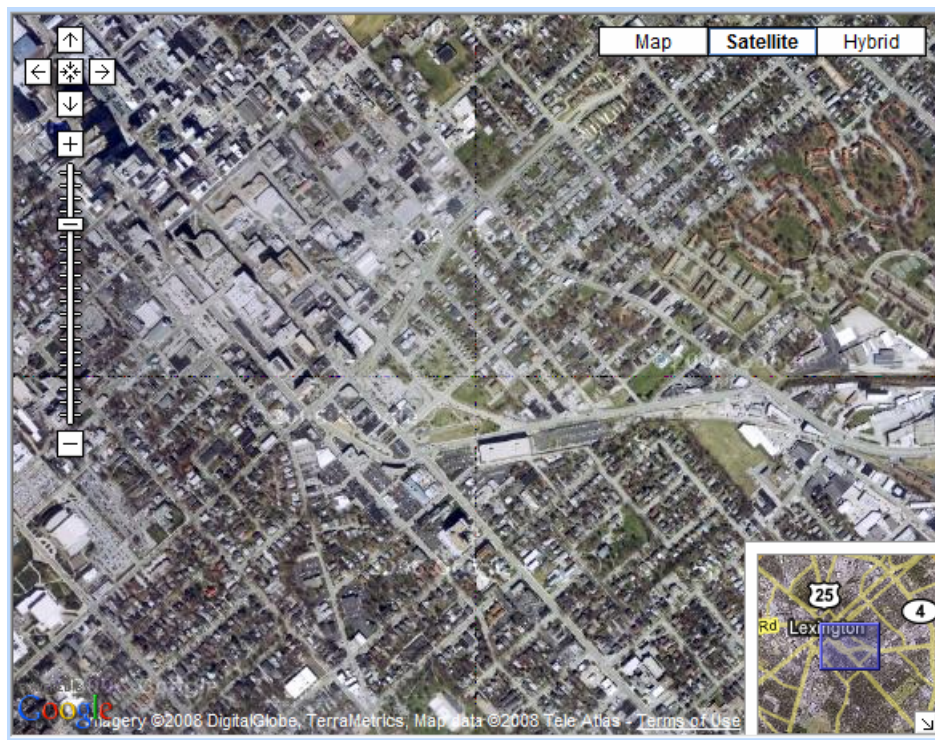
4.6.1 Google map data

Google Map includes the basic map, satellite map, hybrid map and other map data.

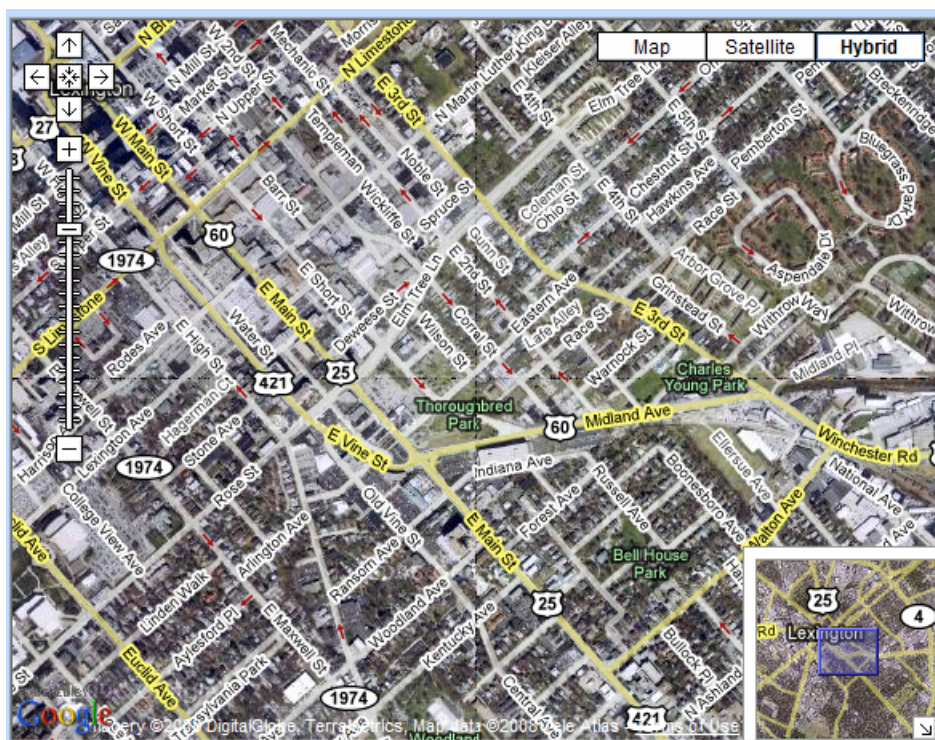
You can switch the map by the buttons on the upper right corner of Google map.



Basic Map



Satellite Map



Hybrid Map

4.6.2 Google map operation

Move the map: You can move the map by right clicking and dragging the map. Or you can move



the map by the tool on the Google map.

Zoom the map: You can zoom in or zoom out the map by scrolling forward or backward the



mouse. Or you can zoom in or out the map by the tool

5. Operating the TR-151

5.1 How to set SOS number of TR-151 by SMS?

Users can set SOS number of TR-151 by sending SMS via mobile phone or by TR Management's Skype (Please refer to [4.5.5 Set SOS phone number](#)).

The format of SMS by mobile phone is following as:

?7,IMEI,4,SOS1,SOS2,SOS3,Return_Phone_Number!

The table below explains the content of the SMS.

Format	Description
?	Start sign
7	Function code
IMEI	IMEI code of the TR-151
4	Setting code of SOS number
SOS1, SOS2, SOS3	The phone number for receiving SOS message
Return_Phone_Number	The phone number for TR-151 to send an SMS to inform the setting is OK.
!	End sign

Example 1, if user only wants to set 1 set of SOS, and return phone number as 616123456, you can send SMS as:

?7,355632000166323,4,616123456,,,626123456!

(You still have to add 2 commas after the set of SOS.)

Example 2, if user wants to set SOS1, SOS2, SOS3, and return phone number as 616123456, 717123456, 818123456, and 626123456, you can send the SMS as.

?7,355632000166323,4,616123456,717123456,818123456,626123456!

NOTE: You can also set SOS number by management center. Please refer to page 18 for the detail.

5.2 How to set TR-151 to immediately report its position by SMS?

Users can send an SMS by mobile phone or by TR Management center's Skype to ask TR-151 to immediately report its position.

The format of SMS by mobile phone is following as:

?0,IMEI,Report_Format,Return_Phone_Number!

The table below explains the content of the SMS.

Format	Description
?	Start sign
0	Function code
IMEI	IMEI code of the TR-151
Report_Format	0 or 1. 0 is for end user, and 1 is for SMS management center development
Return_Phone_Number	The phone number for receiving the reporting SMS.
!	End sign

TR-151 will send an SMS whose format is “?0,IMEI,OK!” to the return phone number to confirm it has received the request. And then it will start to get fixed the position. After getting fixed the position, it will send SMS with its location to the return phone number.

For example: If you'd like to ask TR-151 to send immediate report in format0 to 626-123456. You have to enter **?0, 355632000166323,0,626123456!**

And then you will get **?0,355632000166323,OK!**. After TR-151 get fixed of the position, you will get the position report like

Position report
Name
2008/12/15 10:20:39
N2459.8915,E12129.2186
GPS fixed

NOTE:

If TR-151 can not get fixed the position within the “Maximum GPS Fixing Time”, it will return the previous location. When the GPS position is fixed, it will again return the position data.

Please refer to page 18 to set “Maximum GPS Fixing Time.”

5.3 How to set TR-151 to periodically report its position by SMS?

Users can send an SMS by mobile phone or by TR Management center's Skype to ask TR-151 to periodically report its position.

The format of SMS by mobile phone is as below.

?1,IMEI,Report_Interval,Number_of_Reports,Report_Format,Return_Phone_Number!

The table below explains the content of the SMS.

Format	Description
?	Start sign
1	Function code
IMEI	IMEI code of the TR-151
Report_Interval	Set the interval between two reporting SMS
Number_of_Reports	Set how many reporting SMS should be sent
Report_Format	0 or 1. 0 is for end user, and 1 is for SMS management center development
Return_Phone_Number	The phone number for receiving the reporting SMS.
!	End sign

TR-151 will send an SMS whose format is “?1,IMEI,OK!” to the return phone number to confirm it has received the request. And then TR-151 will send the SMS with its location to the return phone number according to the report interval.

NOTE:

If user sets the number of reports as 0, TR-151 will keeps sending the periodical report until user send the SMS of ?2,IMEI,Return_Phone_Number! to stop the periodical report.

Example 1: Require continuous 120-sec period report in format0 sent to 626123456

You have to enter “? 1,355632000166323,120,0,0,626123456!”

TR-151 will send “? 1,355632000166323,OK!” And then you will get the position report like

Position report

Name

2008/12/15 10:20:39

N2459.8915,E12129.2186

GPS fixed

TR-151 will send position report every 120 seconds until you stop periodical report.

Stop periodical report:

Users can send an SMS to stop periodical report.

The format of SMS is following as?2,IMEI,Return_Phone_Number!

5.4 How to set TR-151 to immediately make report its position via GPRS network?

Users can send an SMS by mobile phone or by TR Management center's Skype (to ask TR-151 to immediately report its position via GPRS network to TR-151 Management center or GPRS server.

The format of SMS by mobile phone is following as:

?8,IMEI,Return_Phone_Number!

The table below explains the content of the SMS.

The description of SMS

Format	Description
?8	Start sign and function code
IMEI	IMEI of TR-151
Return_Phone_Number	The phone number for receiving OK message.
!	End sign

TR-151 will send an SMS whose format is "?8,IMEI,OK!" to the return phone number to confirm it has received the request. And then it will start to get fixed the position. After getting fixed the position, it will send its location to the TR-151 Management center or GPRS server.

Example: Require GPRS immediate report sent to 626-123456

You have to enter "?8,355632000166323,626123456!"

And then you will get "? 8,355632000166323,OK!"

5.5 How to set TR-151 to periodically report its position via GPRS network?

Users can send an SMS by mobile phone or by TR Management center's Skype to ask TR-151 to periodically report its position via GPRS network to GPRS server (TR Management center).

The format of SMS by mobile phone is as below.

?9,IMEI,Report_Interval,Return_Phone_Number!

The description of SMS

Format	Description
?9	Start sign and function code
IMEI	IMEI of TR-151
Report_Interval	Time interval of sending data report. The unit is second.
Return_Phone_Number	The phone number for receiving OK message.
!	End sign

TR-151 will send an SMS whose format is "?9,IMEI,OK!" to the return phone number to confirm it has received the request. Then it will periodically send the periodical report according to the report interval.

Example 1: Require 120-sec period report sent to 626123456

You have to enter "**?9,355632000166323,120,626123456!**"

Example 2: Require 180-sec period report sent to 626123456

?9,355632000166323,180,626123456!

Stop GPRS periodical report:

Users can send an SMS to stop periodical report.

The format of SMS is following as:

?2,IMEI,Return_Phone_Number!

5.6 Tracking/Monitoring TR-151 by GPRS

Users can make commands to TR-151 for asking immediate report, periodical report, or stop report via GPRS server and network.

	Report type	Format	Note	Example	TR-151 will return
0	Immediate report	\$0,IMEI!	*note1	\$0,355632000166323!	\$OK!
1	Period report	\$1,IMEI,sec!	*note2 sec= 5~86400	\$1,355632000166323,30! Report every 30 seconds	\$OK!
2	Stop connect	\$2,IMEI!	*note3	\$2,355632000166323!	\$OK!

*note1: When TR-151 receives this command, it will send the report back immediately. It will send only one time, and the GPRS connection is still on.

*note2: When TR-151 receives this command, it will send back the report every specified second. And the GPRS connection is still on. The time error of return could be 1~3 seconds, or larger if the GPRS connection is not stable.

*note3: When TR-151 receives this command, it will disconnect from GPRS and go to standby mode.

5.7 Displaying the location on map

The format of longitudes and latitudes got from TR-151 differs from the format of Google map/earth's longitudes and latitudes. So users have to convert the format of longitudes and latitudes got from TR-151 into the format Google map/earth's longitudes and latitudes before displaying the location on map.

The format of longitudes and latitudes got from TR-151 is like E2459.79 and N12129.26. E2459.79 means E24°59.79'. N12129.26 means N121°29.26'. Please take the digits at the right side of the degree to be divided by 60. The number you get is the number at the right side of decimal.

For example, the longitudes and latitudes got from is E2459.79 and N12129.26

You have to take $59.79 \div 60 = 0.9965$; $29.26 \div 60 = 0.487666 \approx 0.4877$

Then you can enter 24.9965 and 121.4877 into Google earth or Google map to display the location.

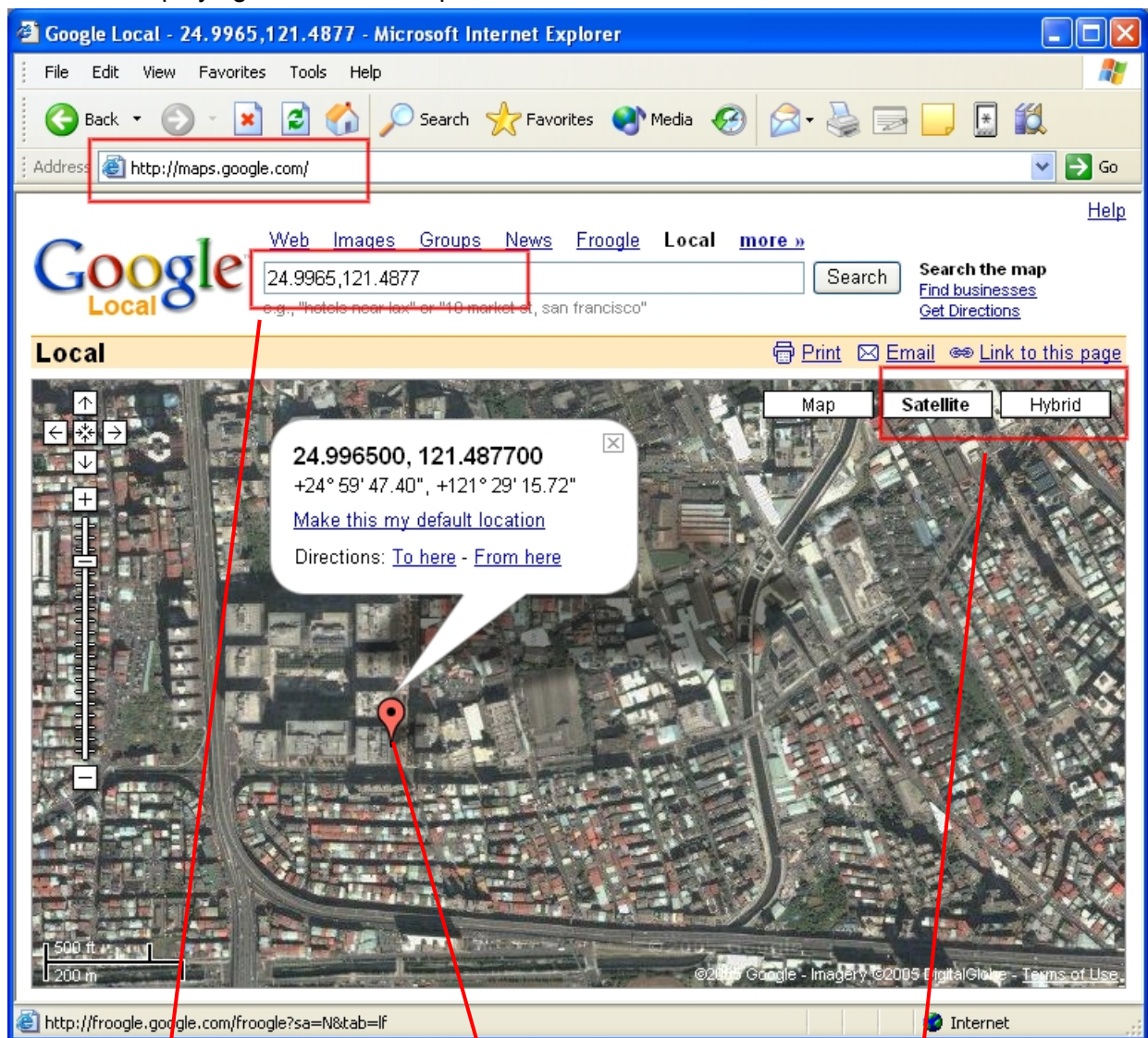
- Start the Google Earth software.

The screenshot shows the Google Earth interface. On the left sidebar, under the 'Fly To' tab, the coordinates '24.9965, 121.4877' are entered into the search bar. A red arrow points from this input field to a text box below. The main map area shows a satellite view of a city. A red arrow points from the coordinates '24.9965, 121.4877' displayed on the map to another text box below. The status bar at the bottom shows the coordinates as 'Pointer 24°59'47.40" N 121°29'15.70" E'.

Input the latitude and longitude

The Google Earth will display the location map for you.

- Or you can start the Internet Explorer and type "http://maps.google.com" to connect to Google Map website for displaying the location map.



Enter the latitude and longitude and click on **Search** button.

The Google Map will display the location map for you.

Select "Satellite" or "Hybrid". It depends on Google Map whether your area is supported by this mode or not.

5.8 How to set TR-151 enter Geofence mode?

Users can send SMS by mobile phone or by TR Management center's Skype (refer to [4.5.1 Set Geo-fence](#)) to TR-151 for setting up to 10 permissible or restricted areas whose shape is circular or rectangular for tracking the vehicles or monitoring the equipment/assets. Users can choose to receive alarm message while TR-151 enters the restricted areas or to receive alarm message while TR-151 gets out the permissible areas. The content of the SMS includes the rectangular or circular areas defined by longitudes and latitudes, getting in the restricted areas or getting out the permissible areas to send alarm, time intervals of alarm report, number of reports, report format and return phone number.

The format of SMS by mobile phone is as below.

	Report type	Format	Return message
4	SMS Geofence	?4,IMEI,{[R,longitude,latitude,longitude,latitude],[C,longitude,latitude,radius(meter)]},In_or_Out,Report_Interval,Number_of_Reports,Report_Format,Return_Phone_Number!	?4,IMEI,OK!
11	GPRS Geofence	?11,IMEI,{[R,longitude,latitude,longitude,latitude],[C,longitude,latitude,radius(meter)]},In_or_Out,Report_Interval,Number_of_Reports,Report_Format,Return_Phone_Number!	?11,IMEI,OK!

The description of SMS

Format	Description
?4 ?11	Start sign and function code ?4 → Send location info to mobile phone. ?11 → Send location info to TR-151 management center
IMEI	IMEI of TR-151
{[R,longitude,latitude,longitude,latitude],[C,longitude,latitude,radius(meter)]}	Boundary information: R: rectangular shape → Follow by two longitudes, latitudes. C: circular shape → Follow by one longitude, latitude and one radius.
In_or_Out	In_or_Out=in → Send alarm message if TR-151 gets in the restricted areas. In_or_Out=out → Send alarm message if TR-151 gets out the permissible areas.
Report_Interval	Time interval of sending data report. The unit is second.
Number_of_Reports	Set how many reports will be sent? Number_of_Reports=0 → continuous report Number_of_Reports=X → X times report
Report_Format	Set TR-151 to return message by Format0 or Format1. (see description below)
Return_Phone_Number	?4: The phone number for receiving return message and alarm message. ?11: The phone number for receiving return message

!	End sign
---	----------

Note 1:

The format of Google map/earth's longitudes and latitudes differs from the format of TR-151's. So please convert the format of Google map/earth's longitudes and latitudes into the format of TR-151's longitudes and latitudes before setting Geofence.

If you get a set of latitude and longitude from Google earth like 24°59'47.40" & 121°29'15.72", you have to convert the format to TR-151 format as below and then set geo-fence.

$47.40 \div 60 = 0.79$ $15.72 \div 60 = 0.262$

Please take E 12129. & 262 N2459.79 to set geo-fence

If you get a set of latitude and longitude from Google earth like 24.9965° & 121.4877°, you have to convert the format to TR-150 format as below and then set geo-fence.

$0.9965 \times 60 = 59.79$ $0.4877 \times 60 = 29.262$

Please take E12129. 262 & N2459.79 to set geo-fence

Note 2:

User can set up to 10 rectangular or circular boundaries. Each SMS contains one boundary setting.

User can send numerous SMS to complete one set of settings, including numerous rectangular or circular boundaries. For example, if user wants to set the boundary includes 2 rectangles and 1 circle.

User has to send 3 SMS, two with rectangle information, one with circle information.

SMS1:

?4,IMEI,R,longitude,latitude,longitude,latitude,In_or_Out,Report_Interval,
Number_of_Reports,Report_Format,Return_Phone_Number!

SMS2:

?4,IMEI,R,longitude,latitude,longitude,latitude,In_or_Out,Report_Interval,
Number_of_Reports,Report_Format,Return_Phone_Number!

SMS3:

?4,IMEI,C,longitude,latitude,radius,In_or_Out,Report_Interval,
Number_of_Reports,Report_Format,Return_Phone_Number!

If user uses numerous SMS in one setting, the IMEI, In_or_Out, Report_Interval, Number_of_Reports, Report_Format, Return_Phone_Number must be the same between each SMS. If above parameters are not the same between SMS, TR-151 only follows **last SMS**.

Note 3

In Boundary information

{[R,longitude,latitude,longitude,latitude],[C,longitude,latitude,radius],}

User can set

R: rectangular follows by two longitudes and two latitudes.

Or

C: circular follows by one longitude, one latitude and one radius.

Example: Rectangle

R,E12128.1883,N2342.8117,E12129.2186,N2459.8915

Example: Circle (radius is 1000 meters)

C,E12129.2186,N2459.8915,1000

Note 4:

Example:

- Send **one SMS** to setup Geofence.
- Boundary includes **one rectangle** (two longitudes and two latitudes → E12128.1883,N2342.8117,E12129.2186,N2459.8915)
- When TR-151 gets out boundary, it would send format1, 10 times, 120 sec interval, alarm message to 626123456.

?4,355632000166323,R,E12128.1883,N2342.8117,E12129.2186,N2459.8915,out,120,10,1,616123456!

Example:

- Send **three SMS** to setup Geofence.
- Boundary includes **one rectangle** (two longitudes and two latitudes → E12128.1883,N2342.8117,E12129.2186,N2459.8915) and **two circles** (one longitude/latitude is E12228.1883,N2442.8117, and radius is 1000 meter) (the other longitude/latitude is E12328.1883,N2452.8117, and radius is 1500 meter)
- When TR-151 gets out boundary, it would send format1, 10 times, 120 sec interval, alarm message to 626123456.

SMS1:

?4,355632000166323,R,E12128.1883,N2342.8117,E12129.2186,N2459.8915,out,120,10,1,616123456!

SMS2:

?4,355632000166323,C,E12228.1883,N2442.8117,1000,out,120,10,1,616123456!

SMS3:

?4,355632000166323,C,E12328.1883,N2542.8117,1500,out,120,10,1,616123456!

Exit Geofence mode:

Users can send an SMS exit Geofence mode.

The format of SMS is following as:

?2,IMEI,Return_Phone_Number!

Caution:

If you exit Geofence mode, all the settings will be deleted.

5.9 How to make TR-151 do Voice monitor function?

User can send a SMS by a mobile phone or by TR Management's Skype to ask TR-151 start the voice monitoring.

The format of SMS is following as:

?6,IMEI,Return_Phone_Number!

The table below explains the content of the SMS

Format	Description
?	Start sign
6	Function code
IMEI	IMEI code of the TR-151
Return_Phone_Number	The phone number for TR-151 to call back and transmit the sounds.
!	End sign

Note: If return phone number is empty, TR-151 will call back to Caller ID

TR-151 will send an SMS whose format is "?6,IMEI,OK!" to the return phone number to confirm it has received the request. And then it will start to call back to the returned number written in the SMS. And then user can listen to the sound or voice around TR-151.

Example:

User send voice command and make TR-151 call back to 626123456

?6,355632000166323,626123456!

Stop voice monitoring:

Users can hang up the phone call to stop voice monitoring.

5.10. How to set the parameters of Parking Mode?

Parking Mode is for users to make TR-151 to send out location SMS while it senses vibration over the value of sensitivity. When TR-151 is under Parking Mode, it will turn off the GPS module and turn on motion sensor. It can still receive SMS.

Users can set the parameters of parking mode by TR Management Center (refer to [4.2.1.2 Parking and sleeping mode setup](#)) or by send SMS by mobile phone or by TR Management center's Skype (refer to [4.5.6 Set parking mode's parameters](#))

You have to press the power button when TR-151 is powered on to make TR-151 enter parking mode.

- While the device is powered on, press the power button to enter parking mode. The status LED will flash specific times to indicate the parking mode is enabled.
- Press the power button again to exit from the parking mode.

User can also send an SMS by a mobile phone to set the parameters of parking mode.

The format of SMS is following as:

?7,IMEI,5,Park_Time,Park_Interval,Park_Number_of_Reports,Report_format,Sensitivity,Park_Return_Number,Return_Phone_Number!

The table below explains the content of the SMS

Format	Description
?7	Start sign and function code
IMEI	IMEI of TR-151
5	Setting code for Parking setting
Park_Time	Set the active time for entering parking mode. The unit is second.
Park_Interval	Time interval of sending data report. The unit is second.
Park_Number_of_Reports	Set how many report will be sent. 0 → continuous report X → X times report
Report format	0 → Format0 1 → Format1
Sensitivity	Set the number of vibration which enables TR-151 to send out alarm. The number you can set is 1~255. Larger value means less sensitive.
Park_Return_Number	Return phone number for default report mode.
Return_Phone_Number	The confirmed SMS sent to the phone number to indicate the setting is successful.
!	End sign

TR-151 will send an SMS whose format is“?7,IMEI,OK!” to the return phone number to confirm it has received the request.

Exit from parking mode:

Users can press the power button or send an SMS to exit from parking mode.

The format of SMS is following as:

?2,IMEI,Return_Phone_Number!

5.11 How to set the parameters of Sleeping Mode?

When TR-151 is under sleeping mode, its GSM module and GPS module will be turned off, the motion sensor will be turned on. Just like being under parking mode, it will send out SMS while it senses vibration over the value of sensitivity. But TR-151 will not receive SMS under sleeping mode.

Making TR-151 to enter sleeping mode, you have to adjust **DIP switch 4 to ON** when TR-151 is powered off. TR-151 will enter sleeping mode when you power it on again. If you want to exit from sleeping mode, please turn off the power, adjust **DIP switch 4 to OFF**, and then power it on again.

The status LED will flash 60 times to indicate the sleeping mode is enabled.

Users can set the parameters of sleeping mode by TR Management Center (refer to [4.2.1.2 Parking and sleeping mode setup](#)) or by send SMS by mobile phone or by TR Management center's Skype (refer to [4.5.7 Set sleeping mode's parameters](#))

User can also send an SMS by a mobile phone to configure the parameters of sleeping mode.

The format of SMS is following as:

7,IMEI,6,Sleep_Time,Sleep_Interval,Sleep_Number_of_Reports,Report_format,Sensitivity,Sleep_Return_Number,Return_Phone_Number!

The table below explains the content of the SMS

Format	Description
?7	Start sign and function code
IMEI	IMEI of TR-151
6	Setting code for Sleeping setting
Sleep_Time	Set the time length of sleep mode. The unit is hour. When it reaches the Sleep Time, TR-151 will wake up and send a SMS message, then go back to Sleeping mode.
Sleep_Interval	Time interval of sending data report when TR-151 senses the vibration under sleeping mode. The unit is second.
Sleep_Number_of_Reports	Set how many report will be sent. 0 → continuous report X → X times report

Report format	0 → Format0 1 → Format1
Sensitivity	Set the number of vibration which enables TR-151 to send out alarm. The number you can set is 1~255. Larger value means less sensitive.
Sleep_Return_Number	Return phone number for default report mode.
Return_Phone_Number	The confirmed SMS sent to the phone number to indicate the setting is successful.
!	End sign

Comparison between parking mode, sleeping mode, and normal mode

Function/Mode	Normal mode	Parking mode	Sleeping mode
GPS		Off	Off
GSM	On	On	Off
Motion sensor	Off	On	On

5.12 The return format from TR-151

Return SMS format from TR-151

The data format is configurable in the SMS tracking commands. There are two types of the data format as below.

Format0 is for general end users who send SMS commands to TR-151 by their cell phone or PDA phone. This format is very easy to read by end users.

Format1 is specifically read by software TR Management Center that is developed by service provider.

Data Report Format:

Report_Format=0 → **Format0**

Report_Format=1 → **Format1**

Format0:	Example:
Position report Name Time Date GPS position Fix or not	Position report Name 2006/9/15 10:20:39 N2459.8915,E12129.2186 GPS fixed

Format1:
?IMEI,Status,GPS_Fix,Date,Time,Longitude,Latitude,Altitude,Speed, Heading,Number_of_Satellites_In_Use,HDOP!
Example:
?353857014816785,2,3,280807,035825,E12129.2616,N2459.7918,97.2,0.13,142.31,04,2.4!

The description of Format1

Format	Value	Note
?	?	Command Head
IMEI	The number of IMEI	
Status	0 1 2 4 5 12 13 14	0: Immediate report 1: Period report 2: Stop report 4: Geo-fence 5: SOS 12: Parking 13: Sleeping 14: Battery Low
GPS_Fix	1 2 3	1: Fix not available 2: GPS 2D Fix 3: GPS 3D Fix
Date	ddmmyy	
Time	hhmmss	
Longitude	(E or W)dddmm.mmmm	Example: E12129.2186 → E 121°29.2186'
Latitude	(N or S)ddmm.mmmm	Example: N2459.8915 → N 24°59.8915'
Altitude	xxxxx.x	unit: meters

Speed	xxxxx.xx	unit: knots (1knots = 1.852km)
Heading	ddd	
Number_of_Satellites_In_Use	xx	
HDOP	x.x	
!	!	Command End

Format of return GPRS from TR-151

Format:

Command_Head,IMEI,status,GPS_fix,date,time,longitude,latitude,altitude,speed,heading,number of satellites in use,HDOP,Command_End

Example:

\$355632000166323,1,1,040202,093633,E12129.2252,N2459.8891,00161,0.0100,147,07,2.4!

Format	Value	Note
Command_Head	\$	
IMEI	(The number of IMEI)	
Status	0 1 2 4 5	0: Immediate report 1: Period report 2: Stop connect 4: Geo-fence 5: Battery Low
GPS_fix	1 2 3	1: Fix not available 2: GPS 2D Fix 3: GPS 3D Fix
date	ddmmyy	
time	hhmmss	
longitude	(E or W)dddmm.mmmm	Example: E12129.2186 → E 121°29.2186'
latitude	(N or S)ddmm.mmmm	Example: N2459.8915 →N 24°59.8915'
altitude	xxxxx.x	unit: meters
speed	xxxxx.xx	unit: knots (1knots = 1.852km)
heading	ddd	
number of satellites in use	xx	
HDOP	x,x	
Command END	!	

5.13 SMS Configuration

User can configure following parameters into TR-151 by SMS. There are seven settings as below.

- SMS Default Return Phone Number
- Maximum GPS Fixing Time
- Default Report Mode Setting
- SOS Numbers (Please refer to [5.1 How to set SOS number of TR-151 by SMS?](#))
- Parking setting
- Sleeping setting
- GPRS setting

Report type	Format	Return message
SMS Default Return Phone Number	?7,IMEI,1,Enable_SMSDefaultReturnPhoneNumber, SMSDefaultReturnPhoneNumber,Return_Phone_Number!	?7,IMEI,OK!
Maximum GPS Fixing Time	?7,IMEI,2,Maximum_GPS_Fixing_Time, Return_Phone_Number!	?7,IMEI,OK!
Default Report Mode Setting	?7,IMEI,3,Default_Report_Mode,Report_Interval, Number_of_Reports,Report_Format, ReturnPhoneNnumberForDefaultReportMode, Return_Phone_Number!	?7,IMEI,OK!
SOS Numbers	?7,IMEI,4,SOS1,SOS2,SOS3,Return_Phone_Number!	?7,IMEI,OK!
Parking Setting	?7,IMEI,5,Park_Time,Park_Interval, Park_Number_of_Reports,Report_Format,sensitivity, Park_Return_Number,Return_Phone_Number!	?7,IMEI,OK!
Sleeping Setting	?7,IMEI,6,Sleep_Time,Sleep_Interval, Sleep_Number_of_Reports,Report_Format,sensitivity, Sleep_Return_Number,Return_Phone_Number!	?7,IMEI,OK!
GPRS Setting	?7,IMEI,7,Port,APN,GPRS_Name,GPRS_pwd,DNS1,DNS2, Host_Name,Return_Phone_Number!	?7,IMEI,OK!

- Default_Report_Mode:
 - Default_Report_Mode = 0 → immediate report
 - Default_Report_Mode = 1 → period report
 - Default_Report_Mode = 2 → stop
- Enable_SMSDefaultReturnPhoneNumber:
 - Enable or disable SMS Default Return Phone Number.
 - Enable_SMSDefaultReturnPhoneNumber = 0 → Disable
 - Enable_SMSDefaultReturnPhoneNumber = 1 → Enable
- Maximum_GPS_Fixing_Time:
 - If GPS is not fixed within the time, it returns previous location and close GPS.
 - The unit is minute.
- Number_of_Reports:
 - Set how many report will be sent.
 - Number_of_Reports = 0 → continuous report
 - Number_of_Reports = X → X times report
- Report_Format: Ask TR-151 to return message by Format0 or Format1.
- Report_Interval: Time interval of sending data report. The unit is second.

- Return_Phone_Number: TR-151 will send confirmed message back to this Return_Phone_Number.
If user let Return_Phone_Number be empty, TR-151 will send report back to SMSDefaultReturnPhoneNumber.
If Return_Phone_Number and SMSDefaultReturnPhoneNumber are both empty, TR-151 will send report back to caller ID.
- ReturnPhoneNnumberForDefaultReportMode: Return phone number for default report mode. TR-151 will send report to this number after it is turned on when Default Report Mode is set to immediate report or period report.
- SMSDefaultReturnPhoneNumber: Set SMS Default Return Phone Number.

5.13.1 SMS Configuration _ SMS Default Return Phone Number

TR-151 will send location report or confirmed message back to the return phone number that is in the last field of all SMS tracking commands.

If user leaves “**Return Phone Number**” blank in the tracking commands, TR-151 will send SMS back to “**SMS Default Return Phone Number**”.

You can set the SMS default return phone number by TR Management center (refer to [4.2.1.1 TR-151 Basic setup](#)) or by sending SMS via mobile phone or via TR Management center (refer to [4.5.2 Set the SMS default return phone number](#))

Below please find the content of mobile phone’s SMS default return phone number

Report type	Format	Return message
SMS Default Return Phone Number	?7,IMEI,1,Enable_SMSDefaultReturnPhoneNumber, SMSDefaultReturnPhoneNumber,Return_Phone_Number!	?7,IMEI,OK!

The description of SMS

Format	Description
?7	Start sign and function code
IMEI	IMEI of TR-151
1	Setting code for SMS Default Return Phone Number
Enable_SMSDefaultReturnPhoneNumber	0 → Disable 1 → Enable
SMSDefaultReturnPhoneNumber	In the SMS tracking commands (immediate report, period report, stop report, Geofence), if the field Return_Phone_Number is empty, TR-151 will send data report to this SMSDefaultReturnPhoneNumber.
Return_Phone_Number	The confirmed SMS sent to the phone number to indicate the setting is successful.
!	End sign

Example: To configure SMS default return phone number as 313-987654, and send confirmed SMS to 626-123456.

?7,355632000166323,1,1,313987654,626123456!

Example: To Disable SMS default return phone number and send confirmed SMS to 626-123456.

?7,355632000166323,1,0,,626123456!

5.13.2 SMS Configuration _ Maximum GPS Fixing Time

You can set a period of time for TR-151 to get fixed of the location. When TR-151 cannot get fixed of the location within the period, TR-151 will send out the last location report.

You can set the maximum GPS fixing time by TR Management center (refer to [4.2.1.1 TR-151 Basic setup](#)) or by sending SMS via mobile phone or via TR Management center (refer to [4.5.3 Set the Maximum GPS fixing time](#))

Below please find the content of mobile phone's SMS for setting maximum GPS fixing time

Report type	Format	Return message
Maximum GPS fixing time	?7,IMEI,2,Maximum_GPS_Fixing_Time,Return_Phone_Number!	?7,IMEI,OK!

The description of SMS

Format	Description
?7	Start sign and function code
IMEI	IMEI of TR-151
2	Setting code for Maximum GPS fixing time
Maximum_GPS_Fixing_Time	The time that allows for GPS fixing. If GPS fixing is not achieved within the time, it will close GPS and send back the previous location info.
Return_Phone_Number	The confirmed SMS sent to the phone number to indicate the setting is successful.
!	End sign

Example: To configure Maximum GPS fixing time to 5 minutes and send confirmed SMS to 626-123456.

?7,355632000166323,2,5,626123456!

5.13.3 SMS Configuration _ Default Report Mode Setting

You can set the default report mode for TR-151. When TR-151 is powered on, it will enter the default report mode. You can set the default report mode by TR Management center (refer to [4.2.1.1 TR-151 Basic setup](#)) or by sending SMS via mobile phone or via TR Management center (refer to [4.5.4 Set default report mode](#))

Below please find the content of mobile phone's SMS for setting default report mode

Report type	Format	Return message
Default report mode setting	?7,IMEI,3,Default_Report_Mode,Report_Interval,Number_of_Reports,Report_Format,ReturnPhoneNnumberForDefaultReportMode,Return_Phone_Number!	?7,IMEI,OK!

The description of SMS

Format	Description
?7	Start sign and function code
IMEI	IMEI of TR-151
3	Setting code for Default report mode setting
Default_Report_Mode	0 → SMS immediate report 1 → SMS periodical report 2 → stop 8 → GPRS immediate report 9 → GPRS periodical report
Report_Interval	Time interval of sending data report. The unit is second.
Number_of_Reports	Set how many report will be sent. 0 → continuous report X → X times report
Report Format	0 → Format0 1 → Format1
ReturnPhoneNnumberForDefaultReportMode	Return phone number for default report mode.
Return_Phone_Number	The confirmed SMS sent to the phone number to indicate the setting is successful.
!	End sign

Note:

The configuration is for default report mode (SMS Immediate, SMS Period, Stop, GPRS immediate, GPRS periodical) settings. In immediate and stop settings, some fields are unnecessary, please leave these fields empty and separate them by a comma. Please see following examples for detail.

Example: SMS Immediate report. Configure default report mode as **SMS immediate report**, send format1 report data to 313-987654, and send confirmed SMS to 626-123456.

?7,355632000166323,3,0,,,1,313987654,626123456!

Example: SMS Period report. Configure default report mode as **SMS period report**, send 10 times, 180-sec period report in format0 to 313-987654, and send confirmed SMS to 626-123456.

?7,355632000166323,3,1,180,10,0,313987654,626123456!

Example: **Stop.** Configure default report mode as **stop (standby)**, and send confirmed SMS to 626-123456.

?7,355632000166323,3,2,,,,,626123456!

Example: **GPRS Period report.** Configure default report mode as **GPRS period report**, send 180-sec period report, and send confirmed SMS to 626-123456.

?7,355632000166323,3,9,180,,,,626123456!

5.13.4 SMS Configuration _ GPRS Setting

In order to make GPRS connection between TR-151 and TR Management center, you have to set the GPRS parameters into TR-151. You can set the GPRS parameters by TR Management center (refer to [4.2.1.3 TR-151 GPRS setting](#)) or by sending SMS via mobile phone or via TR Management center (refer to [4.5.8 Set the GPRS parameters](#))

Below please find the content of mobile phone's SMS for setting GPRS parameters.

Report type	Format	Return message
GPRS Setting	?7,IMEI,7,Port,APN,GPRS_Name,GPRS_pwd,DNS1,DNS2,Host_Name,Return_Phone_Number!	?7,IMEI,OK!

The description of SMS

Format	Description
?7	Start sign and function code
IMEI	IMEI of TR-151
7	Setting code for GPRS setting
Port	GPRS Port of the Server
APN	Please consult your GPRS network service provider for these parameter values.
GPRS_Name	
GPRS_pwd	
DNS1	
DNS2	
Host_Name	Please enter the physical IP of the PC where you install TR Management center or the domain name.
Return_Phone_Number	The confirmed SMS sent to the phone number to indicate the setting is successful.
!	End sign